

SDMS US EPA REGION V -1

**SOME IMAGES WITHIN THIS
DOCUMENT MAY BE ILLEGIBLE
DUE TO BAD SOURCE
DOCUMENTS.**

148023

Exhibit 3.4

Information Requests No. 29-32

CONFIDENTIAL BUSINESS
INFORMATION

Pursuant to 40 CFR Part 2, Subpart B, Monsanto Company hereby asserts a business confidentiality claim covering this Exhibit and all documents attached thereto.

From the desk of
EARL N. BRASFIELD

Bill Papagelorge



MCO 6323702

1920's - LIQUID WASTE FLOWED TO DEAD CREEK.

- SOLID WASTE BURIED ON SITE AND SOUTH OF PLANT IN AREA E. OF CERRO & NEAR VILLAGE HALL.

'31-33 - VILLAGE SEWER SYSTEM CONSTRUCTED BY WPA.

OVERFLOW FROM LUGK WENT TO DEAD CREEK FOR EXCESSIVE RAIN & FLOOD WATER.

'35 - DEAD CREEK DRIDGED TO FLOW NORTH FROM QUEENY AVE.

'38 - FILLED IN SAUGET VILLAGE HALL AREA E OF CERRO.

MCO 6323703

'38 - ARECLOR PRODUCTION STARTED

'38-51 - LANDFILL PRIMARILY DONE IN LUGK SITE PREPAR INCLUDING CURRENT EDWIN COPPER SITE AND LOT F WEST OF HWY 3.

60-72 - Whiggoner Trucking was making
THROUGH R. FROM WORK ELIMINATED PRODUCTS,
IN CLOSING, 100% ADDITIONAL 100% CLOSURE

MCU 0323704

'78 - WGR LANDFILL CLOSED -
& COVER COMPLETED IN 1980.

'68 - Concrete Plug Poured In Queens
Ave. Culvert To Permanently
SEAL HOLE. No Major Flow -
MADE CHANGE TO STOP FLOW RHYTHM
WATER.

Also Name, Port Facilities, & L.L.F.A.

'51-78 - LANDFILL AT River Lido For Toxic
MATERIAL FROM WGR, JFG, & Gen.
OFFICES KRS.

'51 - 51
Took out the whole QUEEN
Hill. To END THERE - STOPPED
ALL FLOW TOTALLY IN SOUTH
DIRECTION.

W. G. KRUMMRICH WASTE DISPOSAL (with map)

HISTORY OF PLANT

Monsanto Company purchased the original site of the W. G. Krummrich Plant in Sauget, Ill., in 1917. It is named in honor of a former plant manager. Fewer than 100 employees worked at the 30-acre plant site when it was acquired from the Commercial Acid company. Today the plant stretches over 328 acres, employing more than 1,400 persons with an annual payroll of \$32 million. Of the total employees, 75 percent live in Illinois. The plant manufactures a variety of intermediate chemicals which are important to many industries.

BACKGROUND ON WATER RUNOFF

Back in the early 1900s, Dead Creek started somewhere north, flowed through the industrialized Granite City district, and emptied into the Mississippi River, about five miles south of the area now called Sauget. Dead Creek carried rain water runoff from north of East St. Louis along with domestic and industrial waste water. When Monsanto bought the chemical acid plant in 1917, the creek entered the property on the north side and flowed southward through the plant site. We believe it is safe to assume that industrial waste entered the creek bed throughout its length in those early times.

MCO 0009505

The village of Sauget was incorporated in 1926. In 1933, the Sauget village sewer system was completed. After 1933, all effluent from the plant flowed into the village sewer system. However, during infrequent floods and unusually heavy rainfall, the storm water runoff washed throughout the area, and could have flowed toward the creek.

In 1935, the creek was dredged between Monsanto's plant and Queeny Avenue, and sometime later the portion in the plant was filled in. This occurred shortly after Queeny Avenue was relocated two blocks southward to its present site. A culvert running under Queeny Avenue to the creek was blocked by the Village of Sauget, stopping the runoff flow southward. In 1968, a concrete plug was poured in the culvert to permanently seal the outlet, stopping any runoff flow completely to the south.

PLANT WASTE DISPOSAL

Currently and in recent years, industrial wastes from the Krummrich plant are either handled by contract landfill or contract incineration, or in-plant incineration. Solid non-liquid wastes are sent to an Illinois EPA-approved landfill. Concentrated liquid wastes are shipped to incinerator sites operated by Rollins Environmental Services.

Although no records exist, it is known that in the early times (1917 to the 1930s), the plant disposed of its wastes in a commercial landfill operated by Leo Sauget in the area around the Sauget Village Hall near Queeny and Nickel Avenues. This landfill was filled and covered by the operator.

MCO 0009506

From 1938-1951, wastes were disposed of primarily on plant-owned property, either at the site of the present Cooper plant or a landfill west of Highway 3.

From 1951-1978, we operated our own landfill on a 20-acre company-owned tract east of our existing river terminal. This site was covered and clay-capped in 1979.

SAMPLING PROGRAM

Monsanto, as a responsible industrial citizen of the community, is concerned about Dead Creek. We offered to cooperate with the Illinois EPA and share samples to help develop facts concerning safety of the area. We are hopeful that our assistance will help resolve the situation.

MCO 0009507

30

SAUGET SEWERS

MGK 1484021

11

ATTENTION
(ENVIRONMENTAL INSURANCE
LITIGATION MATERIALS)
DO NOT DESTROY OR REMOVE
WITHOUT SPECIFIC AUTHORIZATION
FROM THE LAW DEPARTMENT. CALL
314-694-6060 OR 314-694-6032 FOR
ADDITIONAL INFORMATION.

ROUTED TO
KIM - 5/27/79
070 51020419
-505

WGK 1484022

3

Sauget
Sanitary Development & Research Association
10 Mobile Street
Sauget, Illinois 62201

F. Sauget & Sons

From: William L. DeFer, Treasurer, 618-874-3188

Date: 11/17/87

cc: B. Hanke

Sub.: VILLAGE SEWER REPAIRS

Ref.:

To : W. Smull ✓

Attached for your review is a copy of a memorandum written by Brett outlining the recommended plan of repairs for the village sewers.



W. L. DeFer

- ① Can Box For G be eliminated
- ② Assume box #1 design is acid brick lined
- ③ Cost is estimated at \$?

WGK 1484023

MEMORANDUM

FROM: Brett Hanke
Association Engineer
TO: Bill DeFer
SUBJECT: Recommendation
Construction Scope Trunk Sewer Repairs

1. Investigation Findings: After the Phase I, II, and IIIA Project was bid at \$5,300,000 (well over the \$3,500,000 estimate), it was determined to investigate whether to perform the scoped new construction or rehabilitate the old system. On cleaning the main collector box (Box E), inspection revealed no serious structural faults. The original \$5,330,000 project was designed based on a need to circumvent use of this box, as it was assumed to be damaged. In fact, it is believed to be repairable. Needed repairs include pressure grouting of apparently minor floor cracks and liner repair.

Further investigation was performed on sewers connected to Box E. This investigation revealed serious damage to the 36" VCP under the TRRA tracks, line E-B. This line requires replacement. Investigation of line H-E, a 30" VCP line, revealed replacement needed only for the approximately 30' adjacent to Box E.

Sewer box investigation during the grouting project has revealed serious deterioration of all five (5) boxes constructed in 1979.

2. Analysis: The major cost of the \$5,330,000 original project was for new boxes and sewers which were chosen to allow optimum future flexibility and serviceability. This original project included rehabilitation of most of the manhole boxes in the area, as well as construction of several new boxes and box extensions. Currently available funds are insufficient to construct the project as originally scoped. It would appear that a rehabilitation project, properly scoped to eliminate the proposed new sewers and boxes while including rehabilitation of the existing facilities and replacement of the line under the TRAA tracks, would be much less expensive.

3. Recommendation: The recommended scope of work is:

a. Reconstruct deteriorated boxes B, C, D, F, G, and I. Reconstruction assures structural integrity and the employment of latest technology while modifying the box to extend fully open to the surface for ease of maintenance.

WGK 1484024

b. Repair Box E by crack grouting and patching lining. Cleaning of liner plate, tuckpointing, and patching of missing tiles should be a sufficient repair absent structural defects of the box walls or floor. An option would be cleaning and patching, then applying a membrane system over it and bricking a full new lining.

c. Construct new line under TRAA Tracks. (This line is now sunken and leaking. The new line should be supported on piles to preclude future settlement when reconstructed.)

4. Proposed Construction Sequence:

Phase I: Whereas the southern section of sewers will be isolated for the cleaning and grouting of the double 36" VCP entering the P-Chem Plant, Box I can be reconstructed first. Box C can be rebuilt once the sewers are grouted.

Phase II: Large Box E relining requires bypass pumping initially and this facilitates reconstruction of the damaged 30' section of the 30" VCP line H - E. Simultaneously, work can begin on the new line H - B.

Phase III: When Box E is relined and the 30" line repaired, flow can be bypassed to the southeast, allowing the termination of bypass pumping. Work can then continue on Line H - B and begin on Boxes B and D.

Phase IV: When Line H - B and Box B are complete, flow can be routed through them and the project completed with reconstruction of Boxes D, F, G, and J.

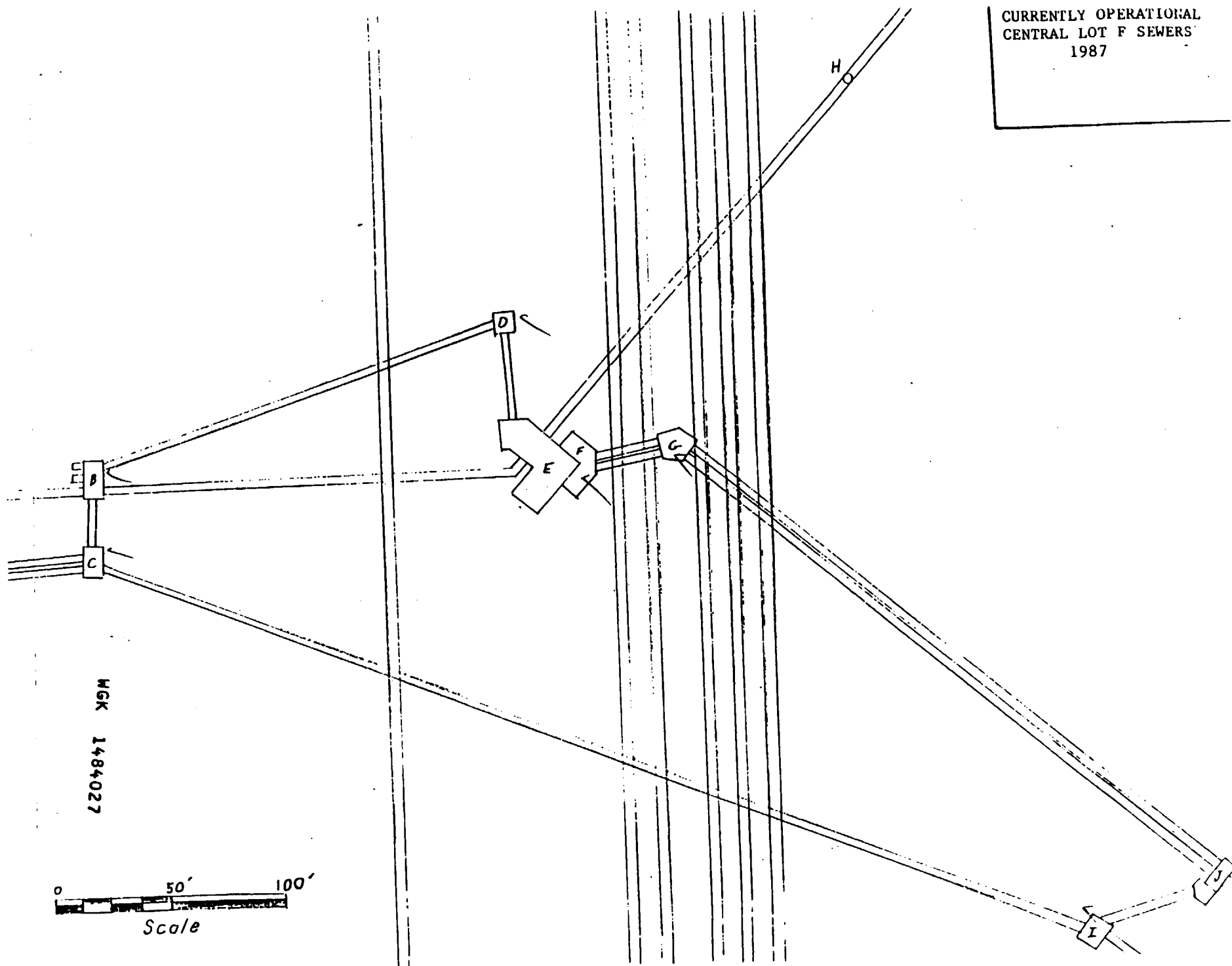
Recommended additional design services by P.H. Weis in support of sewer rehabilitation:

1. Design structural concrete box, 8' x 16' open to ground surface with 20' from flowline to surface. Box should extend 3' above surface for safety. This standard design can be easily adapted by a fabricator to fit any application precluding a need for future redesign.
2. Design steel reinforcement for 36" VCP concrete encasement to maximize the strength of the concrete. Also, compute the allowable span of this "beam" in a liquified sand.
3. Design pile support system for 36" VCP (CE) and for box designed in #1 above.

CE or CB

WGK 1484025

CURRENTLY OPERATIONAL
CENTRAL LOT F SEWERS
1987



CONFERENCE REPORT

VILLAGE OF SAUGET

SAUGET SEWER REHABILITATION
SAUGET, ILLINOIS

PROJECT NO. 7313-84-2

DATE OF MEETING: November 2, 1987

TIME OF MEETING: 9:00 A.M.

PLACE OF MEETING: Village Hall, Sauget, Illinois

THOSE PRESENT: Paul Sauget, President
Village of Sauget

Warren Smull
Monsanto Company

Bill DeFer
Monsanto Company

Brett Hanke
Sauget Sanitary Research and Dev. Assoc.

Paul H. Weis, President
P. H. Weis & Associates, Inc.

Tom Weis
P. H. Weis & Associates, inc.

PURPOSE: To resolve an alternative method of sewer reconstruction in lieu of the bids received December 19, 1985.

ITEMS DISCUSSED:

1. Two Alternative Methods were initially discussed as follows:

PROPOSED SEWER REHABILITATION METHODOLOGY

PHASE I: Estimated Cost = 1.5 Million

1. Construct New Box H and Extend S.

WGK 1484028

2. Construct New Line H to J.
3. Rehabilitate Boxes C and I.

PHASE II: Estimated Cost = 2.0 Million

1. Build New Line E to B.
2. Rehabilitate Box E and F, if possible from inside.
3. Rehabilitate Box B.
4. Rehabilitate Box D.
5. Rehabilitate Box G and Line G to F.

ALTERNATE PHASE II: Estimated Cost = 2.5 Million

1. Rehabilitate and Extend Box D and Construct New Line D to B.
2. Rehabilitate Box B.
3. Construct New Line H to D.
4. Eliminate Box G and Extend Twin 36's to Box D.

*Grout remaining lines to be used.

2. It was determined from discussion the 42" vcp line from H to J is not necessary. P. H. Weis & Associates pointed out the advantages this line could have (connection of north and south lines prior to railroad tracks and a consistent bypass piping system), however, it was determined not feasible at this time by the members of the Association present. The flow would be routed through the Box E during construction or bypassed with pumps. The bypass pumping will not handle major rainfall event during the extensive T.R.R.A. Box E repair time period, which could cause backups on Monsanto Avenue sewers. This would require the bags to be pulled destroying work under construction. Routing the 30" pipe through T.R.R.A. Box E could be more feasible, however, construction methods would be more difficult and possibly dangerous in T.R.R.A. Box E. The members of the Association present concluded that an attempt to route the flow through the T.R.R.A. Box E, as done in 1975, would be made and that they would be willing to take the risk of sewer backups and/or damage to construction in progress.

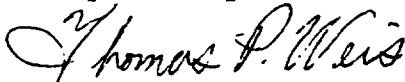
WGK 1484029

3. The concept was reinforced that three lines beneath the T.R.R.A. track is essential, and that construction of a new line beneath them is necessary due to the recent condition survey of the middle 36" line (the effluent from T.R.R.A. Box E).
4. A recent condition survey of T.R.R.A. Box E would lead us to believe that the existing box could be rehabilitated. Depending on the extent of the rehabilitation, this cost is believed to be less than building a new central Box D just north of the existing Box E. The rehabilitation of Box E gives us more flexibility with the lines from the north side.
5. The Mayor refamiliarized us with the problems surrounding the T.R.R.A. Box E and his proposal of bringing lines directly to the P. Chem. Treatment Plant from manholes H and J, respectively. A cost estimate of approximately 4 million for this method was established.

With the condition of several lines to the P. Chem. Treatment Plant being unknown, the group decided to postpone a decision on the method of repair until the condition of these lines is determined. The lines are under contract at the present time. The meeting was adjourned at approximately 11:00 A.M.

This concludes the meeting report. These notes constitute our understanding of the proceedings at the meeting and will be considered correct and in order as outlined herein unless the writer is notified to the contrary.

Respectfully submitted,

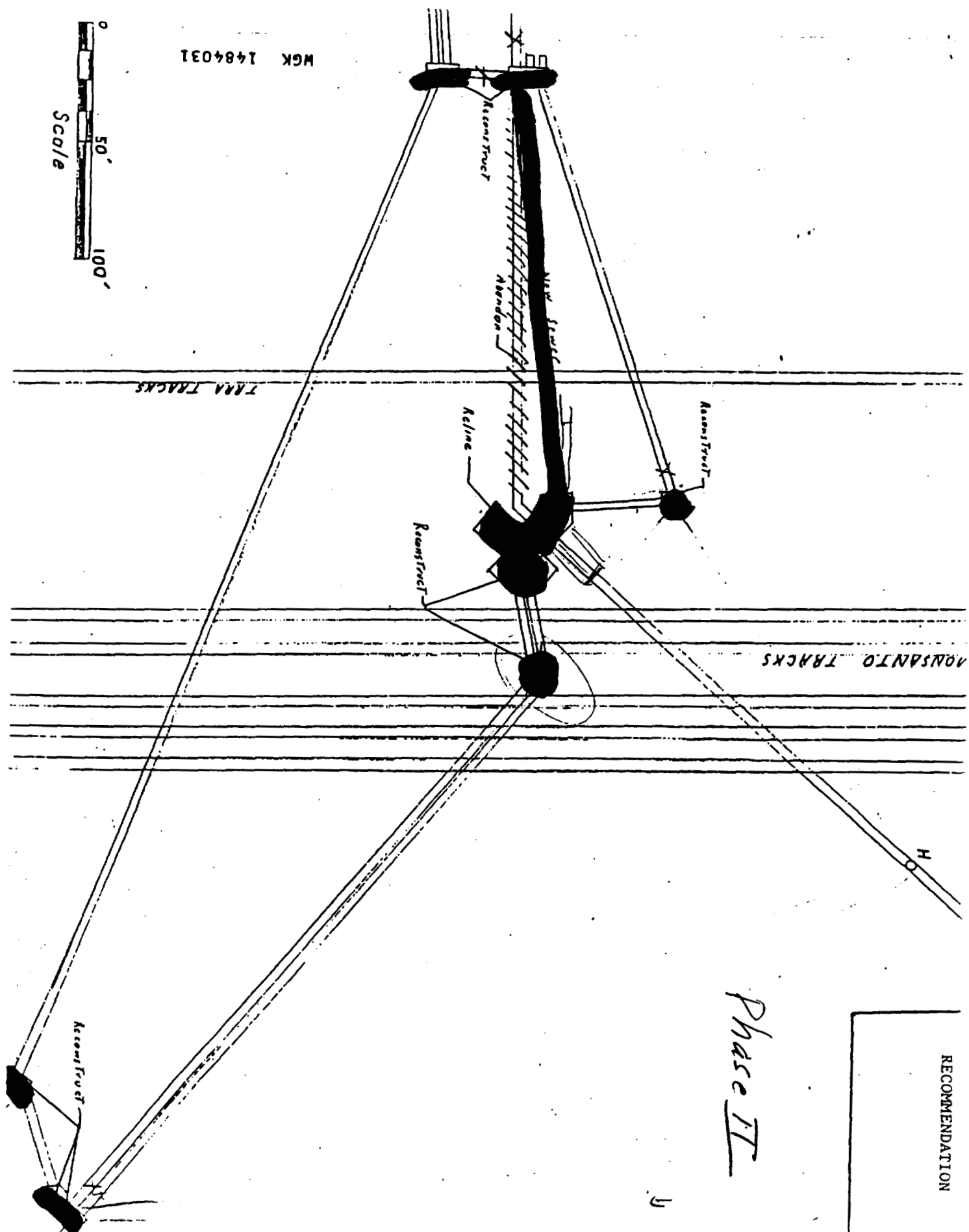


Thomas P. Weis

P. H. WEIS & ASSOCIATES, INC.
ENGINEERS/ARCHITECTS/PLANNERS

TPW:de

WGK 1484030



F-Sanquet General

PROJECT STATUS
SEWER INVESTIGATION AND
REHABILITATION
11 September, 1987

The sewer investigation is proceeding according to the plan prepared by P.H. Weis. To date the large collector box, Box E, has been inspected. Line B-E under the TRRA tracks and line H-E, the 30" sewer under the Monsanto siding have been inspected.

Box E appears to be structurally sound and no infiltration was detected. The lining of the box does require moderate rehabilitation. Joints between box E wall tiles are open and numerous tiles in the areas over five feet from the floor have fallen off. From investigations of lines E-B and H-E, it appears that this 1942 vintage box has settled a little.

Line E-B has a four foot plus sag under the TRRA tracks. Numerous broken pipe joints were observed and excessive infiltration is evident. This line appears structurally unsound and irreparable. Box B appears to have also subsided as evidenced by an initial rise in line B-E as it leaves box B.

Line H-E also has a sag but infiltration is minimal. The sag is from about thirty to about sixty feet from Box E. This sag, again, indicates a localized loss of structural integrity. It could, however, be easily replaced. This is a 1932 sewer, box E is 1942 vintage. I suspect the breaks were caused by box E settlement.

The location and type of failures lead me to believe that they are due to the sinking of these heavy, concrete structures and sewers when the saturated sand soil is liquified by the vibration caused from passing trains.

Potential approaches to solving the sewer problems include:

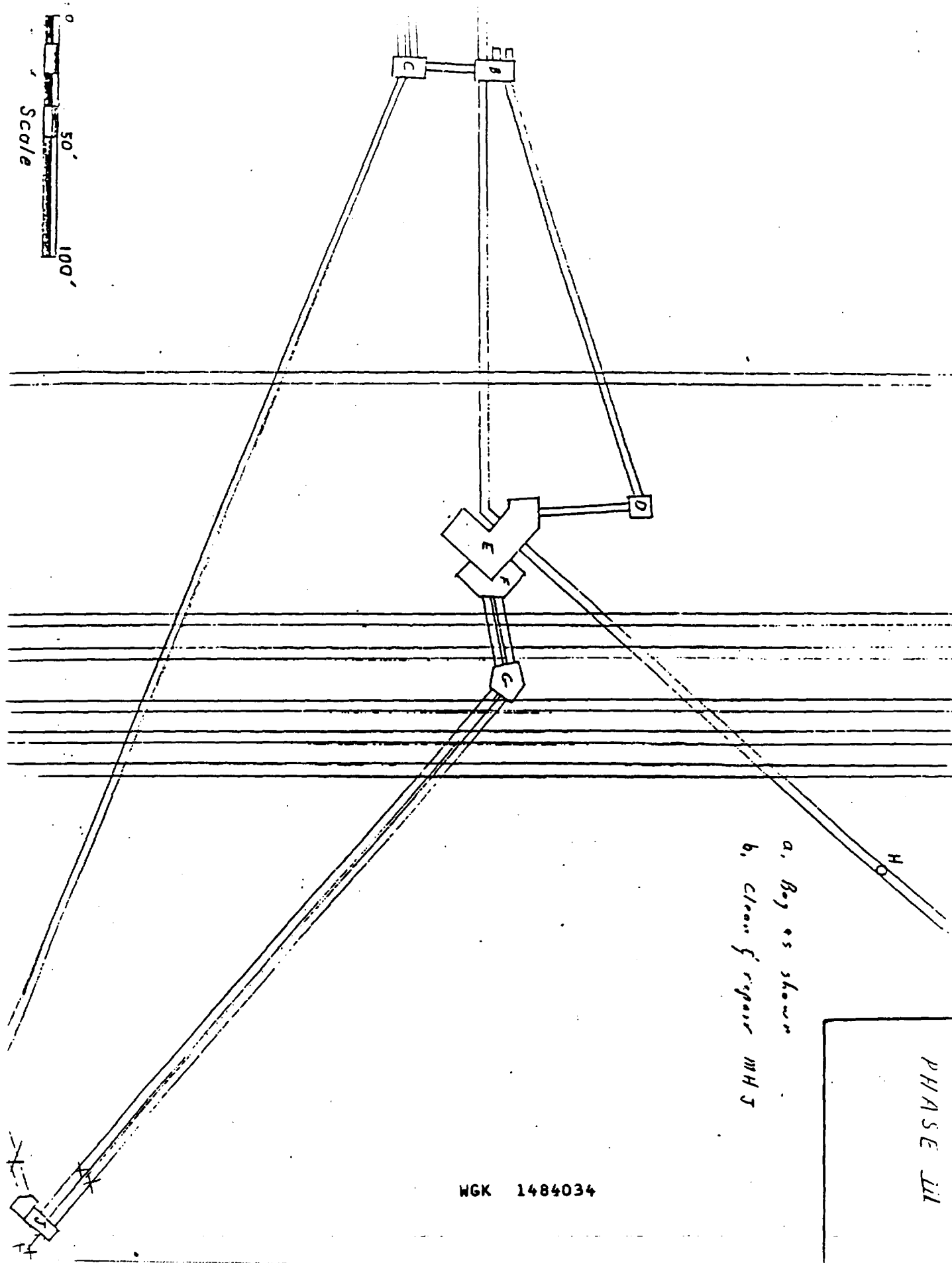
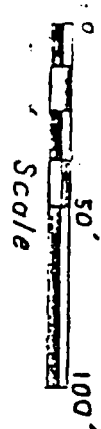
1. Replacing lines per the original plan. (This would be costly, not provide long term support of lines under the tracks, and would create the potential for further box subsidence).
2. Replace line E-B, box B, line H-E and the double 36" pipe under the Monsanto siding from Box G to Box E. Boxes and lines could be supported on drilled piers and a short tunneled section under the TRRA tracks built like a concrete beam.

A decision on the mode of repair needs to be made while the sewer grouting project is in progress.

To date \$ 22.5k has been paid for investigation and \$ 40k is the total obligated.

Brett L. Hanke, P.E.
Association Engineer

WGK 1484033



a. Bay is shown
b. Clean repair MHT

WGK 1484034

PHASE III

F- Gauge Sewers

AGENDA

VILLAGE SEWER REHABILITATION REVIEW 8/5/87

- I. Project Status by Phase
- II. Project Financials/Construction Fund
- III. Plan of Work, Sewer Investigation and Repair
- IV. Project Issues
- V. Other Project Work

Vu Han Ke 8/87
Presented to:
Small
Molloy
De Fel

WGK 1484035

CONSTRUCTION PROJECT STATUS, 1 Aug, 1987

1. Dewatering System - \$503,000 completed cost
Pump wires are defective.
Galvanic corrosion problem.
Pending P.H. Weis resolution with contractor.
2. Sewer Grouting - \$330,000 bid
Contractor defaulted.
\$200,167.65 paid to date.
Pending P.H. Weis resolution with bond company.
3. Sewer Rehabilitation Phases I, II, and IIIA - 2,158,000 estimated
\$1.5 million Build Illinois.
T & M investigation.
Pending delivery of pump impeller and P. H. Weis order to proceed.
will use CI impeller.
4. Mobile Avenue Sewer - Bid \$596,550 + estimated \$25,000 repairs
Pipe bells broken.
Construction/Repair resumed.
Electrical, pump installation and half of brickwork remain.
Litigation pending attorney filing suit against Dickey Pipe.
5. CSO Retention Pond - \$2,174,000 estimated
Pending decision to do.
6. Detention Basin and Sewers - \$3,859,000 estimated
Pending decision to do.
7. Employee Parking Lot - \$70,000 cost (direct P-Chem billing)
Paving complete.
Only in-house seeding this fall remains.
8. Sludge Recycle System - \$17,000 estimated (direct P-Chem billing)
materials ordered.
9. Clean Monsanto Avenue Sewers - \$30,000 estimated
Pending decision on disposal means for grit removed.
10. P-Chem Grit Chamber - \$300,000 (FY 88 P-Chem budget)
Pending budget approval.

WGK 1484036

VILLAGE OF SAUGET - SPECIAL SERVICE AREA #1

	<u>SM</u>
Proceeds From Bond Sale	8.5
Interest Received	.8
	<u>9.3</u>
Disbursements to Date	2.6
BALANCE 4/30/87	<u>6.7</u>
	<u> </u>
Add Build Illinois Funds	1.5
	<u> </u>
<u>Less Future Uses:</u>	8.2
Sewer Investigation	.2
Sewer Rehab./Replacements	3 - 6
Stormwater Detention Pond	2.2
Mobile Street Sewer	?
	<u> </u>
BALANCE	-0.2 to 2.8

WGK 1484037

VILLAGE SEWER REPAIRS - SPECIAL SERVICE AREA # 1
\$8.5 M BOND ISSUE

DISBURSEMENTS

Engineering Fees, P. H. Wies & Associates

11/12/85	\$ 52,630.44	
1/14/86	56,114.38	
4/8/86	26,603.62	
7/8/86	27,785.89	
11/11/86	48,445.37	
1/13/87	18,805.59	
4/14/87	20,071.47	
	<u>\$250,456.76</u>	\$250,456.76

Legal Fees, H. G. Baker

12/10/85	\$ 20,000.00	
1/14/86	7,500.00	
3/11/86	10,000.00	
4/24/86	42,500.00	
2/10/87	2,750.00	
4/14/87	3,000.00	
	<u>\$ 85,750.00</u>	85,750.00

Clean, TV, & Grouting

12/10/85	\$ 49,411.50	P-Chem Plant (Specialty Sewer)
5/13/86	35,559.00	Arnold Rooter, Inc.
6/10/86	69,407.00	Arnold Rooter, Inc.
7/8/86	42,093.49	Arnold Rooter, Inc.
8/12/86	24,616.91	Arnold Rooter, Inc.
10/14/86	28,491.25	Arnold Rooter, Inc.
	<u>\$249,579.15</u>	249,579.15

WGK 1484038

Cerro/Route 3 Sewer Repair

11/11/86	\$ 6,444.00	Arnold Rooter, Inc.
11/11/86	3,602.10	Keeley Bros.
11/11/86	23,750.00	Insituform
	<u>\$ 33,796.10</u>	

\$ 33,796.10

Dewatering, Mooretrench American

12/10/85	\$182,078.10	(Note)
12/10/85	581.60	(Interest on Note)
12/10/85	51,855.79	
1/14/86	42.50	Dron Electric
2/11/86	118.00	Dron Electric
5/13/86	52,520.21	
	<u>\$287,196.20</u>	

\$287,196.20

Payments to Village

8/12/86	\$ 54,171.31	Constr. Fund Ord #499
12/10/85	35,000.00	General Fund (Dewatering- Constr & Engr.)
	<u>\$ 89,171.31</u>	

\$ 89,171.31

*Advances
from Village for
dewatering*

Mobile Avenue Sewer, Keeley Bros.

4/14/87	\$ 19,665.00
2/10/87	76,562.00
1/13/87	201,953.00
12/9/86	97,269.00
	<u>\$395,449.00</u>

\$395,449.00

WGK 1484039

Bond Financing Fees

12/10/85	\$ 21.50	Miscellaneous	
12/10/85	5,773.50	Printing/Mailing	
12/10/85	2,645.74	Printing/Mailing	
2/11/86	40,000.00	Chapman & Cutler	
2/11/86	6.00	Miscellaneous	
2/11/86	2,254.30	Centerre	
	<u>\$ 50,701.04</u>		\$ 50,701.04

Miscellaneous	\$ 3,247.55	3,247.55
		<u>\$1,445.347.00</u>

Transfer to Bond & Int Fund (Cap Int & Princ.)	736,179.00
Underwriter Discount	425,000.00
	<u>\$2,606,526.00</u>

4/30/87 Reconciliation

Proceeds From Sale	\$8,500,000.00
Accrued Int. on Sale	99,101.00
Interest Earned	228,006.00
Est. Int Earned 4/30/86 - 4/30/87 (7,044,417 @ 7%)	490,000.00
	<u>\$9,317,107.00</u>
Less Disbursements:	- 2,606,526.00
	<u>\$6,710,581.00</u>
Actual Construction Fund (Ord 542) Balance 4/30/87	\$6,725,288.00

WGK 1484040

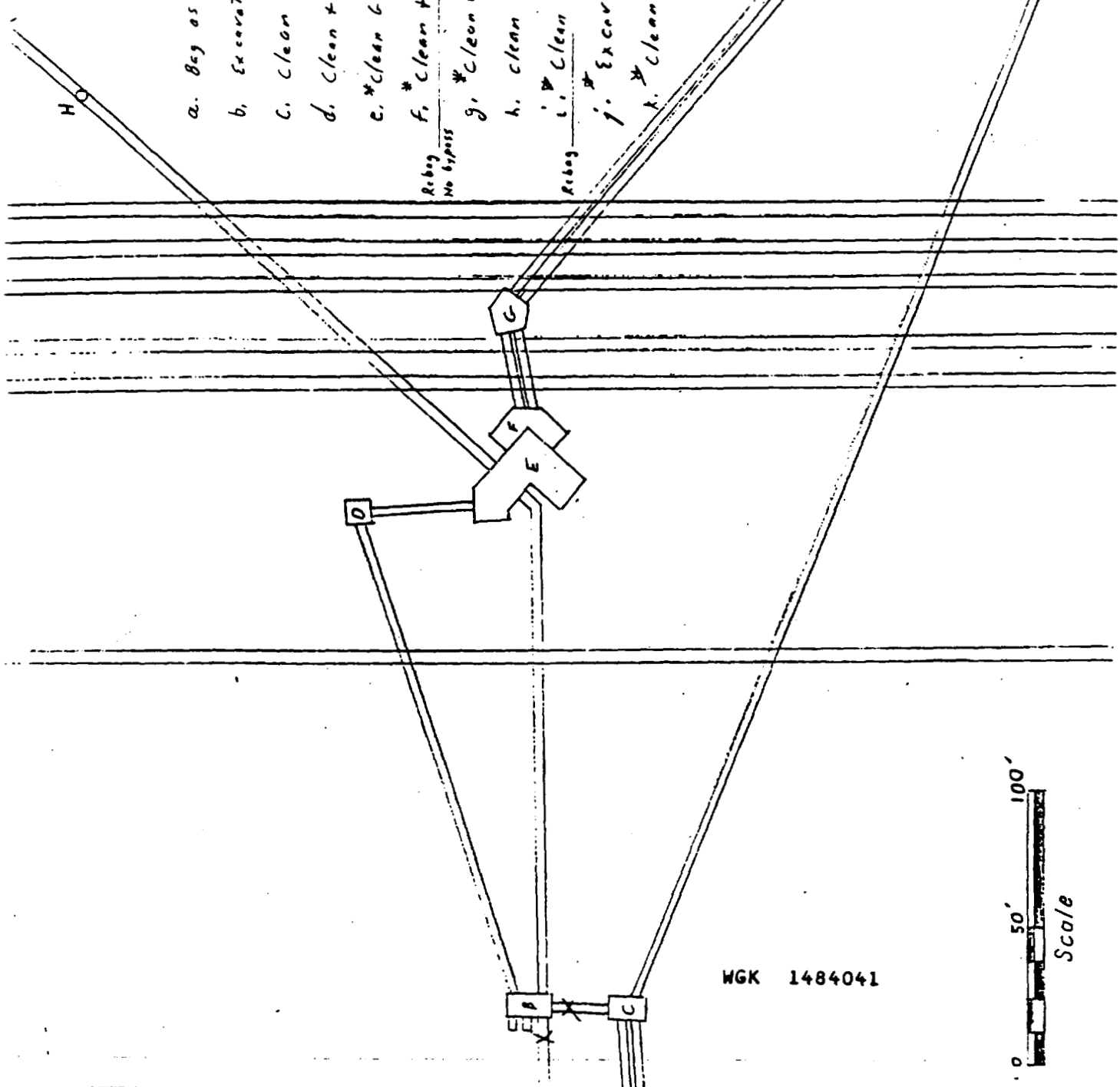
PHASE I

- a. Bag as shown f bypass pump
- b. Excavate f remove Top MH B
- c. Clean E-B f repair (in situ form?)
- d. Clean + Grout H-E
- e. *Clean Grout D-E
- f. *Clean + Repair MNH E
- g. *Clean + Grout D-B + half BC
- h. Clean + Repair MNH D
- i. *Clean + Repair MNH B
- j. Excavate MNH G (shoring)
- k. *Clean + Repair MNH F + G

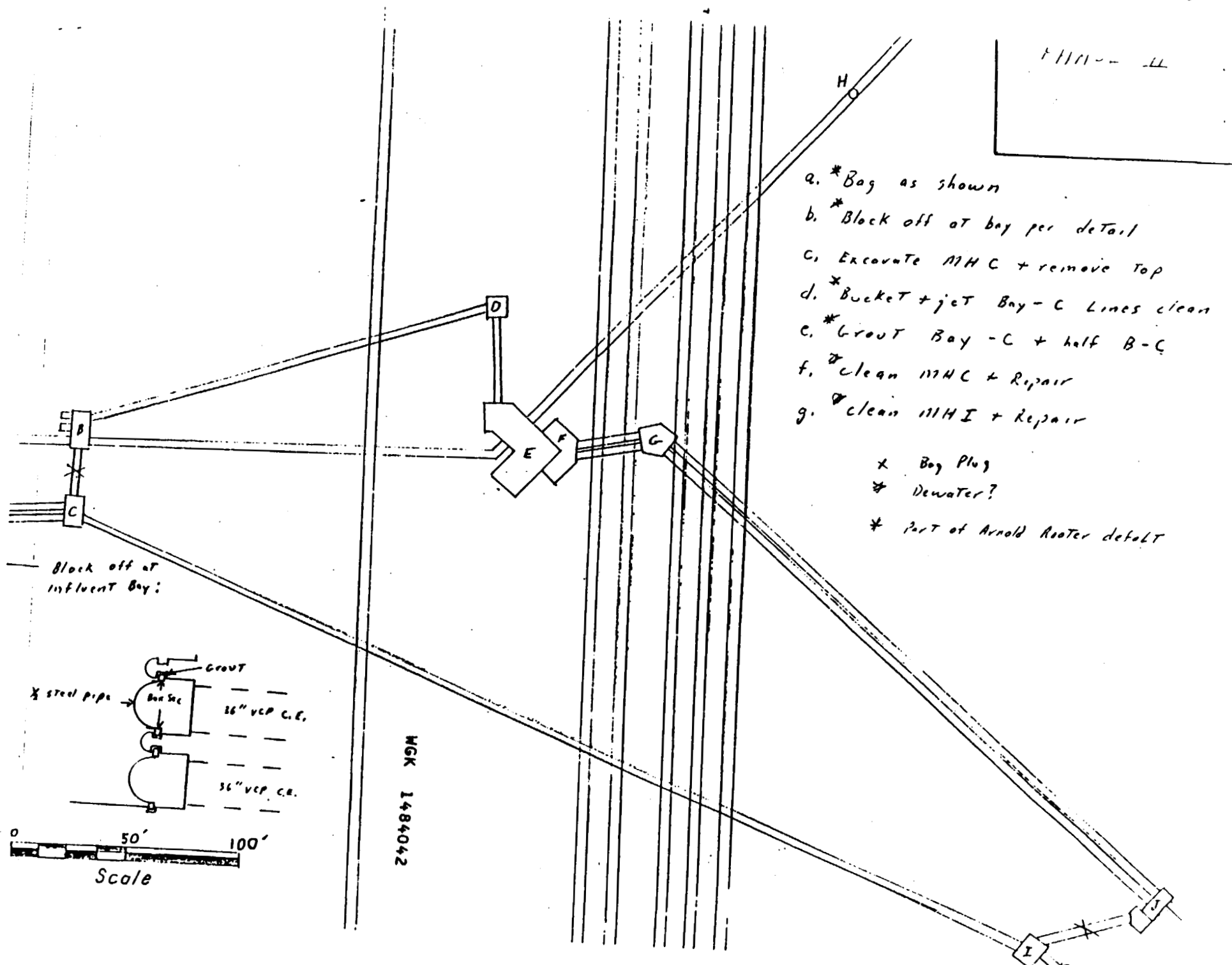
Rebag
No bypass

Rebag

x = bag plug
 * = dewatering?
 * = part of Arnold Rooters
 default



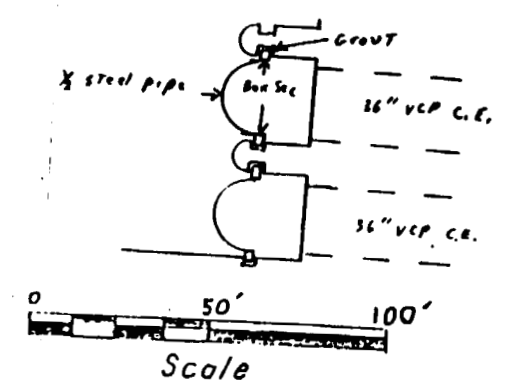
WGK 1484041



- a. * Bag as shown
- b. * Block off at bay per detail
- c. Excavate MHC + remove Top
- d. * Bucket + jet Bay - C Lines clean
- e. * Grout Bay - C + half B-C
- f. * Clean MHC + Repair
- g. * Clean MHI + Repair

- x Bay Plug
- * Dewater?
- * Part of Arnold Rooter detail

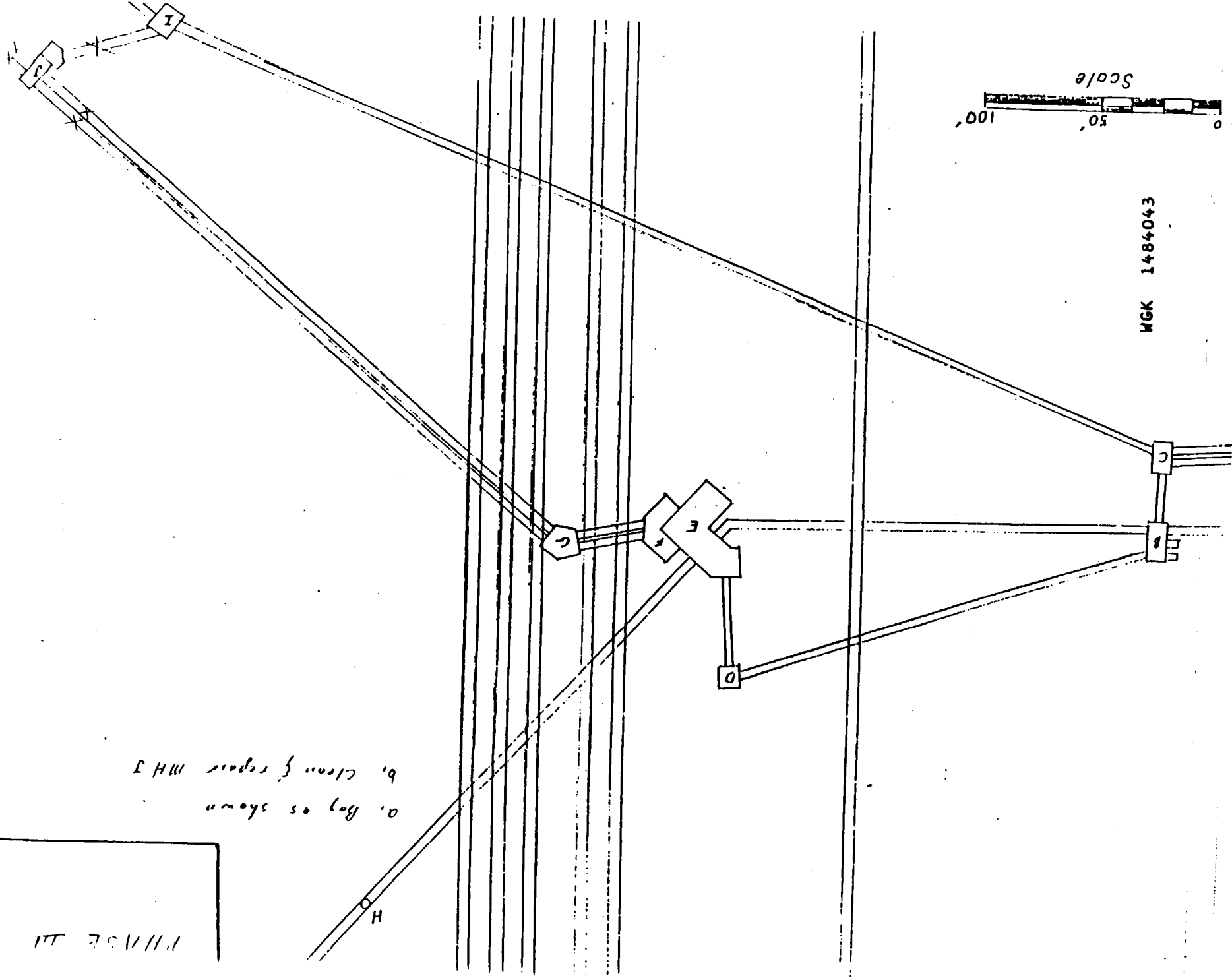
WGK 1484042



Scale

PHASE II

a. Bay as shown
b. Clean & repair MH J



WGK 1484043

8.5 MILLION DOLLAR BOND ISSUE PROJECT ALLOCATION

Dewatering System \$ 503,000

Sewer Cleaning and Grouting 424,000

Sewer Rehabilitation Phases I, II & IIIA 658,000
(plus 1.5 million dollars Build Illinois
and 3.6 million dollars still unfunded)

Mobile Avenue Sewer 226,000
(plus \$365,000 unfunded - essentially
borrowed from the other jobs)

Stormwater Retention Pond ~~2,174,000~~ 2,500,000

Detention Basin and Sewers 3,859,000

Bond Costs 656,000

\$8,500,000

WGK 1484044

XC WLS
F. Sauget & Sewers

P.H. Weis & Associates, Inc.

Engineers
Architects
Planners

2700 Falling Springs Road
Sauget, Illinois 62206
(618) 874-0320

Paul H. Weis, P.E.
Marvin H. Swindle, A.I.A.
August 7, 1987

Honorable Mayor Paul Sauget
Village of Sauget
2897 Falling Springs Road
Sauget, Illinois 62206

Re: Sauget Sewer Rehabilitation
Phases I, II, IIIA, Cleaning and Grouting
Project No. 7313-86-1

Dear Mayor Sauget:

Please find enclosed three copies of the Settlement Agreement that has been negotiated with David Duree, the attorney representing Washington International Insurance Company, the surety for the Arnold Rooter, Inc. contract.

I have reviewed the conditions set forth therein and have found them to be in accordance with my negotiations with Mr. Duree. The Agreement will allow us to complete the project utilizing Video Industrial Services, Inc. in accordance with the original contract documents at no additional cost to the Village of Sauget with the exception of additional engineering and legal fees that have evolved from Arnold Rooter's default. It is recommended that the Village approve and execute the Settlement Agreement.

I am in the process of establishing a contract with Video Pipe Services, Inc. commensurate with the Settlement Agreement and the original contract documents.

Please execute all three copies of the Settlement Agreement, retain one for the Village's file, and forward two copies to David Duree. As soon as we receive the contract from Video Pipe Services, Inc., as well as their Certificate of Insurance, Performance and Payment Bonds, we will be in a position to proceed with the completion of the work.

Yours truly,

PHW
Paul H. Weis, P.E.

P. H. WEIS & ASSOCIATES, INC.
ENGINEERS/ARCHITECTS/PLANNERS

WGK 1484045

PHW:de
Enclosure

Offices in: Illinois — Missouri

RECEIVED AUG 06 1987

LAW OFFICES OF
LERITZ, REINERT & DUREE
PROFESSIONAL CORPORATION

JOSEPH L. LERITZ
BERNARD A. REINERT *
DAVID M. DUREE *
EMMETT M. O'BRIEN
THOMAS J. PLUNKERT *
DAVID D. CRANE *
MARK A. HELFERS *
ANTHONY S. BRUNING *
G. TRACY MEHAN, III
JAMES A. SINGLEY *
THOMAS J. BURNSIDE *
ROBERT F. McCULLOCH
TERESA MAYHEW NESS *
PAUL W. JOHNSON *

812 NORTH COLLINS
LACLEDE'S LANDING
ST. LOUIS, MISSOURI 63102-2174
(314) 821-8743

OF COUNSEL
J. D. LERITZ

OF COUNSEL
JOHN L. SULLIVAN, P.C.

August 6, 1987

* ALSO LICENSED IN ILLINOIS

HAND DELIVERED

Mr. Paul Weis
P.H. Weis & Associates, Inc.
12231 Manchester Road
St. Louis, MO 63131

Re: Cleaning and Grouting Contract
Village of Sauget and Arnold Rooter, Inc.
Project #7313-86-1

Dear Mr. Weis:

Enclosed herewith you will find the original and two copies of a proposed settlement agreement.

I dictated the proposed agreement but did not have an opportunity to review it before my departure on a one week trip.

I have submitted the same agreement to my client.

I believe both parties are in agreement on the terms.

If any correction of language is requested by either party, I'm sure that can be accomplished without changing the basic agreement.

If the enclosed agreement is acceptable please return to me two copies fully executed by the mayor, with resolutions attached, fully notarized.

I will forward to you two copies executed by my client, fully notarized, along with the settlement draft for \$29,444.33 (calculated on the basis of the difference between \$160,171.00 minus \$130,726.65).

WGK 1484046


Mr. Paul Weis
August 6, 1987
Page Two

It will be the responsibility of Sauget to contract with Industrial Video for completion of the work, irrespective of the amount agreed upon or the actual final terms of that agreement.

I have separately notified Video Industrial that it appears we have settled and we do expect him to report to us the number of joints in each of the remaining pipes.

A copy of that letter is enclosed for your reference.

Very truly yours,


David M. Duree

DMD/dsg

Enclosures

WGK 1484047

LAW OFFICES OF
LERITZ, REINERT & DUREE
PROFESSIONAL CORPORATION

812 NORTH COLLINS
LACLEDE'S LANDING
ST. LOUIS, MISSOURI 63102-2174
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OF COUNSEL
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ROBERT R. McCULLOCH
TERESA MAYHEW NESS •
PAUL W. JOHNSON •

• ALSO LICENSED IN ILLINOIS

August 5, 1987

Mr. John S. Kulbitskas
Video Industrial Services, Inc.
113 Sheridan Road
Birmingham, Alabama 35214-4671

Re: Sauget, Illinois

Dear Mr. Kulbitskas:

It appears that Washington International Insurance Company has reached a settlement with the Village of Sauget under which the Village of Sauget will be contracting with your firm for completion of the work, including the pipe between D and B, B and C, and C to treatment plant, and removal/disposal of the sewage/sludge.

Subject to reaching agreement on what work you will do on removal of the sewage/sludge, it is my understanding your lump sum price for the balance of the work is \$160,171.00.

The final amount my client pays the Village of Sauget hinges upon the number of joints in the remaining pipe work to be performed by your company.

We have assumed that the remaining pipelines are comprised of 3' sections, and therefore the joints are on 3' centers.

Please keep me posted, as work progresses, on the number of joints determined to exist in this remaining work, once your work commences.

WKG 1484048

Mr. John S. Kulbitskas
August 5, 1987
Page Two

We may also have Richard Pendleton of George Butler & Associates confirm your figures, if in fact you are encountering anything other than 3' joints.

Very truly yours,

David M. Duree
David M. Duree

DMD/dsg

cc: Mr. Paul Weis
P.H. Weis & Associates, Inc.
12231 Manchester Road
St. Louis, MO 63131

Mr. Richard Pendleton
George Butler & Associates
225 South Main Street
Suite 200
O'Fallon, MO 63366

WGK 1484049

SETTLEMENT AGREEMENT

COMES NOW Washington International Insurance Company (hereinafter "surety") and Village of Sauget (hereinafter "Sauget") and enter into the following settlement agreement with respect to the Village of Sauget cleaning and grouting contract with Arnold Rooter, Inc., as follows:

WHEREAS, Village of Sauget entered into a contract with Arnold Rooter, Inc. for the cleaning and grouting of certain sewers, project number 7313-86-1, on which P.H. Weis & Associates, Inc., were engineers, and

WHEREAS, Arnold Rooter, Inc. ceased working on said project when work was partially completed, and has refused to return to complete said project, and

WHEREAS, surety, as surety for Arnold Rooter, Inc., issued a performance bond with respect to said cleaning and grouting contract,

WHEREAS, Sauget has asserted a claim against surety as a result of the failure to complete said project by Arnold Rooter, Inc., and

WHEREAS, surety and Sauget desire to compromise and settle the claim of Sauget against surety arising out of said project,

NOW, THEREFORE, in consideration of the mutual promises herein, and other consideration described in this agreement, Sauget and surety agree as follows:

WGK 1484050

(1) Sauget has previously accepted the work on said project, other than approximately 185' of pipe from D to B, 20' of pipe from B to C and 1,630' of pipe from C to the treatment plant, and disposal of the sewage/sludge.

(2) Sauget will contract with Video Industrial Services, Inc. for the completion of the balance of the contract work, including, but not limited to the work described in the preceding paragraph; the approximate amount of that new contract between Sauget and Video Industrial is estimated to be approximately \$160,171.00, however, the exact amount of such contract and the exact terms of such contract are to be determined separately in negotiations and agreement between Sauget and Video Industrial.

(3) Surety will have no responsibility with respect to the work to be performed under the new contract between Sauget and Video Industrial.

(4) Surety agrees to pay and Sauget acknowledges receipt of the sum of \$29,444.35 in settlement of all claims of Sauget against surety, with the exception of the potential claim described in paragraph 5 set forth below, and Sauget hereby releases and discharges surety from any and all claims arising out of the cleaning and grouting contract issued to Arnold Rooter, Inc. and the performance bond executed by surety for said contract, as more fully described above, with the exception of the potential claim described in paragraph number 5 below.

WGK 1484051

(5) All claims of Sauget against surety are hereby settled pursuant to this agreement, except surety agrees to pay Sauget \$116 per joint, not to exceed the additional sum of \$40,600, for each joint in the remaining 1,835' of pipe between D to B, B to C and C to treatment plant, based upon final measurement, which is less than the number of joints that would exist in those pipes if each section of pipe is 3' in length; for example, at 3' lengths of pipe, it is estimated there will be 61 joints in the pipe from D to B and 6 joints in the pipe from B to C and 543 joints in the pipe from C to the treatment plant, for a total of 610 joints in the remaining work, based upon the assumption that each length of pipe is 3' in length; in the event the remaining pipe to be cleaned and grouted contains 610 joints or more, surety will owe no money to Sauget under this agreement; in the event the number of joints in said remaining work total less than 610 joints (because the lengths of pipe are greater than 3' in length), then for each joint less than 610 joints, surety will pay Sauget the sum of \$116 per joint for each such joint less than 610; for example, if final measurement shows 600 joints, for this work, surety will pay Sauget 10 times \$116, totaling \$1,160 under the terms of this settlement agreement.

(6) Final measurement of the number of joints in the remaining work to be performed by Video Industrial will be determined first by Video Industrial, to be verified by surety or its consultants and/or representatives.

WGK 1484052

(7) Sauget hereby sells, assigns and transfers to surety all of Sauget's claims against Arnold Rooter, Inc. arising out of or related to the cleaning and grouting contract described above.

(8) The parties agree that this settlement agreement may be executed in counterpart.

(9) Sauget agrees to attach to the executed copy of this agreement an appropriate resolution of the Village of Sauget authorizing and approving this settlement agreement.

(10) Executed this _____ day of _____, 1987.

WASHINGTON INTERNATIONAL
INSURANCE COMPANY

By: _____

VILLAGE OF SAUGET, ILLINOIS

By: 
Mayor

STATE OF ILLINOIS)
) ss.
COUNTY OF)

_____ of Washington International
Insurance Company appeared before me, duly authorized on
behalf of Washington International Insurance Company and

WGK 1484053

executed the above and foregoing settlement agreement on behalf of Washington International Insurance Company as its duly authorized representative.

Notary Public

My Commission Expires:

STATE OF ILLINOIS)
) ss.
COUNTY OF ST. CLAIR)

_____, being known to me to be the mayor of Sauget, Illinois, appeared before me and executed the above and foregoing settlement agreement and acknowledged that he was authorized to execute this agreement on behalf of the Village of Sauget, and, in my presence, he attached to this settlement agreement a copy of the resolution of the Village of Sauget approving the settlement agreement and authorizing _____, as mayor, to execute the settlement agreement on behalf of the Village of Sauget.

Notary Public

My Commission Expires:

WGK 1484054

F-Sauget Sewers

VILLAGE OF SAUGET - SPECIAL SERVICE AREA #1

	<u>\$M</u>
Proceeds From Bond Sale	8.5
Interest Received	.8
	<u>9.3</u>
Disbursements to Date	2.6
BALANCE 4/30/87	<u>6.7</u>
	<u> </u>
Add Build Illinois Funds	<u>1.5</u>
	<u> </u>
<u>Less Future Uses:</u>	8.2
Sewer Investigation	.2
Sewer Rehab./Replacements	3 - 6
Stormwater Detention Pond	2.2
Mobile Street Sewer	?
	<u> </u>
BALANCE	-0.2 to 2.8

WGK 1484055

VILLAGE SEWER REPAIRS - SPECIAL SERVICE AREA # 1
\$8.5 M BOND ISSUE

DISBURSEMENTS

Engineering Fees, P. H. Wies & Associates

11/12/85	\$ 52,630.44	
1/14/86	56,114.38	
4/8/86	26,603.62	
7/8/86	27,785.89	
11/11/86	48,445.37	
1/13/87	18,805.59	
4/14/87	20,071.47	
	<u>\$250,456.76</u>	\$250,456.76

Legal Fees, H. G. Baker

12/10/85	\$ 20,000.00	
1/14/86	7,500.00	
3/11/86	10,000.00	
4/24/86	42,500.00	
2/10/87	2,750.00	
4/14/87	3,000.00	
	<u>\$ 85,750.00</u>	85,750.00

Clean, TV, & Grouting

12/10/85	\$ 49,411.50	P-Chem Plant (Specialty Sewer)
5/13/86	35,559.00	Arnold Rooter, Inc.
6/10/86	69,407.00	Arnold Rooter, Inc.
7/8/86	42,093.49	Arnold Rooter, Inc.
8/12/86	24,616.91	Arnold Rooter, Inc.
10/14/86	28,491.25	Arnold Rooter, Inc.
	<u>\$249,579.15</u>	249,579.15

WGK 1484056

Cerro/Route 3 Sewer Repair

11/11/86	\$ 6,444.00	Arnold Rooter, Inc.	
11/11/86	3,602.10	Keeley Bros.	
11/11/86	23,750.00	Insituform	
	<u>\$ 33,796.10</u>		\$ 33,796.10

Dewatering, Mooretrench American

12/10/85	\$182,078.10	(Note)	
12/10/85	581.60	(Interest on Note)	
12/10/85	51,855.79		
1/14/86	42.50	Dron Electric	
2/11/86	118.00	Dron Electric	
5/13/86	52,520.21		
	<u>\$287,196.20</u>		\$287,196.20

Payments to Village

8/12/86	\$ 54,171.31	Constr. Fund Ord #499	
12/10/85	35,000.00	General Fund (Dewatering- Constr & Engr.)	
	<u>\$ 89,171.31</u>		\$ 89,171.31

Mobile Avenue Sewer, Keeley Bros.

4/14/87	\$ 19,665.00		
2/10/87	76,562.00		
1/13/87	201,953.00		
12/9/86	97,269.00		
	<u>\$395,449.00</u>		\$395,449.00

WGK 1484057

Bond Financing Fees

12/10/85	\$ 21.50	Miscellaneous	
12/10/85	5,773.50	Printing/Mailing	
12/10/85	2,645.74	Printing/Mailing	
2/11/86	40,000.00	Chapman & Cutler	
2/11/86	6.00	Miscellaneous	
2/11/86	2,254.30	Centerre	
	<hr/>		
	\$ 50,701.04		\$ 50,701.04

Miscellaneous	\$ 3,247.55		3,247.55
			<hr/>
			\$1,445.347.00

Transfer to Bond & Int Fund (Cap Int & Princ.)		736,179.00
Underwriter Discount		425,000.00
		<hr/>
		\$2,606,526.00

4/30/87 Reconciliation

Proceeds From Sale	\$8,500,000.00
Accrued Int. on Sale	99,101.00
Interest Earned	228,006.00
Est. Int Earned 4/30/86 - 4/30/87 (7,044,417 @ 7%)	490,000.00
	<hr/>
	\$9,317,107.00
Less Disbursements:	- 2,606,526.00
	<hr/>
	\$6,710,581.00
Actual Construction Fund (Ord 542) Balance 4/30/87	\$6,725,288.00

WGK 1484058

VILLAGE OF SAUGET
ST. CLAIR COUNTY, ILLINOIS

F
Sauget Sewers

FACILITY PLAN ADDENDUM
AND
INFILTRATION-INFLOW ANALYSIS

FEBRUARY 1984

PREPARED BY:

P. H. WEIS & ASSOCIATES, INC.
9811 WEST FLORISSANT
ST. LOUIS, MISSOURI 63136
(314) 524-4893

AND

RHUTASEL & ASSOCIATES, INC.
1 SUNSET DRIVE
FREEBURG, ILLINOIS 62243
(618) 539-3178

WGK 1484059

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WGK 1484060

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WGK 1484061

1.0 SUMMARY AND RECOMMENDATIONS

The basic purpose of this report was to evaluate and analyze the Village of Sauget's sewer system as it relates to infiltration-inflow, the condition of the sewer system including its repair history and past expenditures, the proposed rehabilitation and improvements to the system, and long-term solutions. A general summary and recommendations resulting from this evaluation, including amendments to the original Facility Plan, is summarized briefly in the following statements.

1. Due to the accelerated rate of major sewer breaks and general deterioration of the municipal sewer system in the past couple of years, the infiltration rate has increased dramatically.
2. Flooding conditions during late 1982 and early 1983, accompanied by a rising groundwater table, appears to be the primary factor which caused the accelerated rate of sewer deterioration and the recent increase in infiltration rates. Numerous sinkholes, due to structurally unsafe sewer conditions, currently exist within the municipal sewer system.
3. The average yearly infiltration, during 1983, was determined to be 0.84 MGD which equates to 9% of the total average flow or 6,230 gpd/in. dia./mile of sewer.
4. The peak monthly infiltration, during 1983, was determined to be 2.54 MGD, which equates to 27% of the average daily flow or 18,850 gpd/in. dia./mile of sewer.
5. The current infiltration rate is excessive which warrants cost-effective repair and rehabilitation to the existing sewer system.

WGK 1484062

6. Based on a straight proportion of yearly operating costs versus gallonage transported and treated per year, the projected annual cost to transport and treat the average yearly infiltration is \$481,000 per year equal to a present worth cost of \$4,090,000 over a 20 year period.
7. Assuming that the average yearly expenditures for repairs and rehabilitation to the sewer system over the last ten (10) years continues at the same rate, the additional annual cost, not included in the operating expenses above, is projected at an additional \$617,000 per year of expenditures.
8. Combining the annual operating cost attributable to infiltration and the past average annual repair/rehabilitation cost, the total annual cost is \$1,098,000 per year, equal to a present worth cost of \$9,333,000 over a twenty year period.
9. Based on the age of the sewer system and the recent and documented accelerated rate of major sewer repairs, it would be rational to assume that the average annual cost required for emergency repairs and rehabilitation will increase significantly over the next few years. Based on this observation, the above assumption concerning annual repair cost is conservative.
10. Due to the acidic and toxic characteristics of the wastes involved, and the poor conditions of the existing sewer system, the potential for an emergency situation is imminent. Immediate and significant repairs and rehabilitation to the sewer system are necessary, but due to the costs involved, federal and/or state grant assistance is required to make the project economically feasible.

WGK 1484063

2.0 INTRODUCTION

The Village of Sauget is currently underway with the massive construction project of building and administrating the new regional wastewater treatment facilities, which were originally outlined and recommended in the Facility Plan dated December 1976. The total project cost is projected at \$100,000,000 by the time of completion in 1986. The regional treatment facility was required due to more stringent Federal and State effluent requirements.

Within the last few years and subsequent to the completion of the Facility Plan in 1976, the Village-owned sewer system has experienced an accelerated rate of major structural failure warranting emergency repair and rehabilitation conditions. Accompanied by the accelerated rate of failure has been a substantial increase in infiltration rates.

Based on recent investigations, this report will outline the apparent causes of the accelerated rate of structural failure and the associated infiltration increase, the severity of the problem, and a summary of recommendations.

3.0 EXISTING TREATMENT AND COLLECTION SYSTEM

3.1 Wastewater Treatment System

The existing Village of Sauget treatment facility was originally constructed in 1967 providing primary treatment of combined stormwater, sanitary wastewater, and industrial wastewater flows. The 1967 plant basically consisted of a bar screen, a flow measuring flume, and primary settling basins.

In 1976, due to more stringent effluent requirements, the plant was upgraded to include neutralization facilities and stormwater treatment and storage facilities.

The neutralization facilities primarily consisted of a bar screen, raw wastewater pump station, grit removal, lime neutralization, flocculation with polyelectrolyte addition, sedimentation, and mechanical sludge dewatering.

The stormwater treatment and storage facilities basically consist of a storage lagoon and a stormwater primary clarifier. The storage lagoon provides storage of first flush stormwater flows, until the flow through the plant has diminished at which time the stored flows are returned to the plant influent for treatment. Storm flows in excess of the storage lagoon capacity are diverted to a stormwater primary clarifier. Effluent from the excess stormwater clarifier is transported to the plant effluent line and conveyed by gravity for discharge to the river under normal river stages. During high river stages, the effluent from the neutralization and stormwater facilities is diverted to the Corps of Engineers/Monsanto Storm Pump Station and pumped to the river.

Once the regional plant, currently under construction, is completed, the Village-owned plant, described above, will discharge its treated effluent to the regional plant for further treatment.

WGK 1484065

3.2 Combined Sewer Collection System

The Village of Sauget's sewer collection system was originally constructed in the 1930's with many additions since that time. Since the majority of the sewer system is over 50 years old, major expenditures on repairs have been required especially in the last ten (10) years. Since major portions of the sewer system are currently failing and are structurally unsafe, a major rehabilitation program in the very near future is drastically needed and required. A summary of the past 10 year repair history and an outline of the additional required rehabilitation is included and discussed in later articles of this report.

Due to the corrosive nature of the wastes that the sewers convey, significant precautions are taken in the selection of materials and construction methods. Most of the sewer pipe is constructed of vitrified clay pipe with okum joints sealed with acid resisting cement. In order to improve the structural stability of the collection system, the majority of sewers have been encased or cradled in concrete. A summary of the size, quantity, and average depth is shown on Table 1.

The manholes and interceptor boxes are constructed of brick, lined with acid-resisting mortar or combinations of cast-in-place concrete lined with single or double wall brick, acid-resisting mortar, and in some cases, fiberglass linings. Due to the extreme precaution required to protect the structural integrity of the sewers, manholes, and interceptor boxes, the cost for repairs and construction is much higher than conventional systems.

Due to the general age of the system and a significant rise in the groundwater table accompanied by water table fluctuations, major damage and deterioration of the sewer system has accelerated over the last 10 years. A discussion of the past 10 year repair history is presented in the following report section.

WGK 1484066

TABLE 1
SEWER COLLECTION SYSTEM SUMMARY

<u>Pipe Diameter (Inches)</u>	<u>Length (L.F.)</u>	<u>Average Depth (Ft.)</u>	<u>Inch-Dia./Mile of Sewer</u>
8	3,765	10	5.70
10	600	8	1.14
12	6,250	13	14.20
15	1,450	12	4.12
18	3,200	11	10.91
21	1,950	11	7.75
24	5,960	11	27.09
30	3,075	15	17.47
36	<u>6,800</u>	17	<u>46.36</u>
TOTAL	33,050		134.74

Average Yearly Infiltration = 6,230 gpd/in.-dia./mile of sewer

Peak Monthly Infiltration = 18,850 gpd/in.-dia./mile of sewer

WGK 1484067

3.3 History of Repairs and Improvements

Over the years, the Village of Sauget has incurred substantial costs relating to repairs and improvements to their combined sewer system. In an effort to substantiate these repairs, a summary of the repairs and improvements that were made within the last ten (10) years was developed. Table 2 presents the general description of repairs and their associated costs. As can be seen from Table 2, the total costs to the Village over the last ten (10) years has been in excess of \$6,000,000 or an average yearly expenditure for repairs and improvements of over \$617,000 per year. Since the recent breaks and structural failures of the sewer system are on an accelerated course, it would be prudent to anticipate a substantial future increase in the total annual cost for repairs and improvements.

3.4 Geographical and Geological Conditions Affecting Infiltration/Inflow

This article will briefly describe and discuss two major considerations: A) A brief presentation of the geographical and geological conditions which exist in the study area and; B) A discussion of the effect that the geological conditions have on infiltration/inflow quantities within the sewer system, in particular the effect on infiltration.

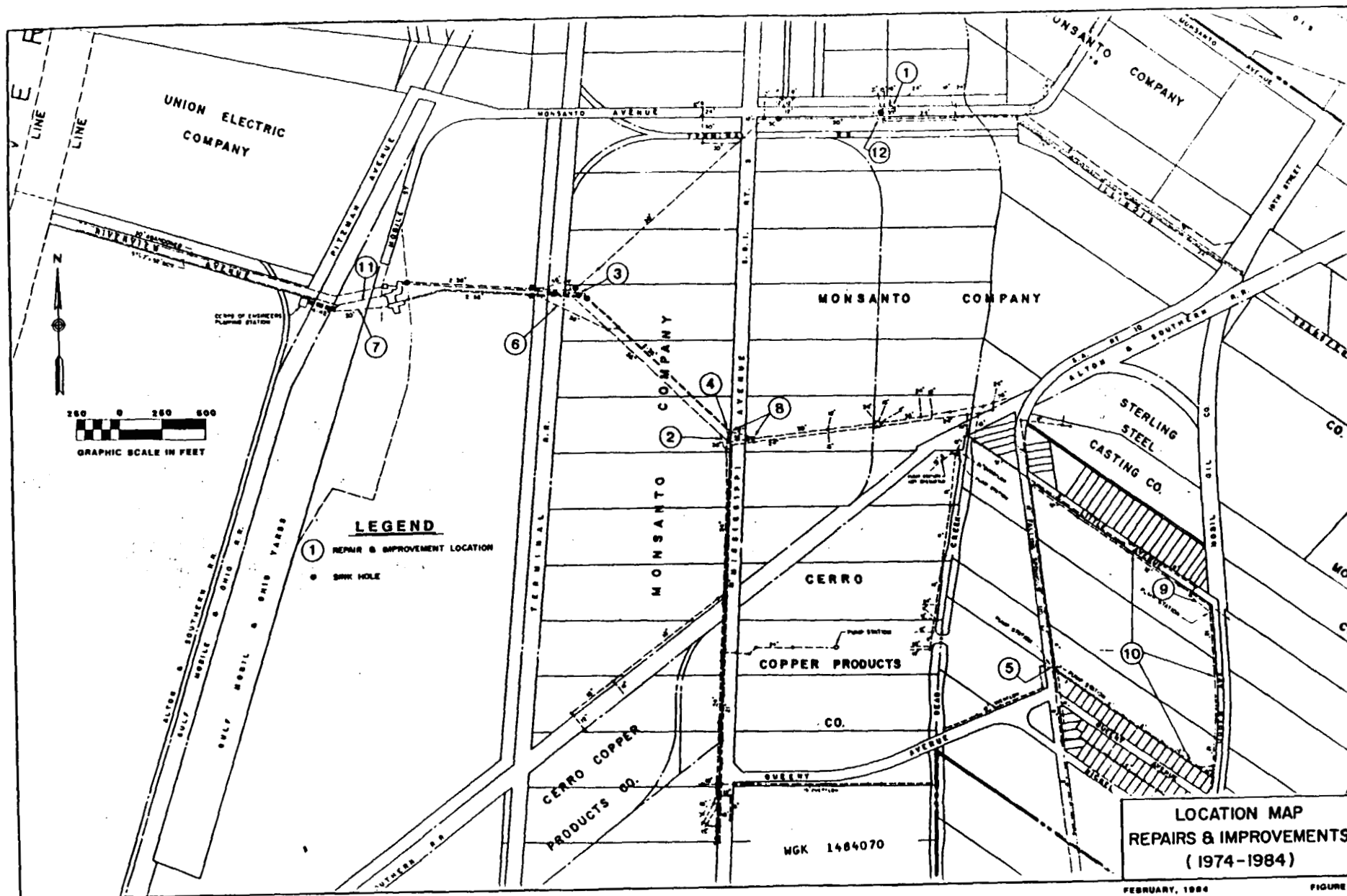
The study area lies within the Mississippi River flood plain known as the American Bottoms. The ground elevations only vary 5 - 10 feet in elevation with an average elevation of approximately 410 feet (MSL), thus the topography is flat and nearly level. The area is generally protected from flooding conditions by a series of levees and stormwater pumping stations.

WGK 1484068

TABLE 2
EXISTING SEWER SYSTEM
REPAIR & IMPROVEMENT
DESCRIPTION
(1974-1984)

<u>ITEM NO.</u>	<u>DATE</u>	<u>GENERAL DESCRIPTION</u>	<u>TOTAL COST</u>
1	Sept. 1974	Manhole Repairs (Monsanto Ave.)	\$ 232,000
2	Aug. 1975	Diversion Box Repairs (Rt. 3, So. Monsanto Ave.)	563,000
3	Aug. 1976	Terminal Railroad Sewer Repairs (Phase I)	331,000
4	Aug. 1977	Emergency Repairs to Interceptor Box (Rt. 3)	17,000
5	Dec. 1977	Sewer Improvements (Falling Springs Ave.)	78,000
6	July 1979	Terminal Railroad Sewer Repairs (Phase II)	2,200,000
7	April 1980	Influent & Effluent Sewer Line @ WWTP (Phase I)	390,000
8	Sept. 1982	Manhole Repairs (Mississippi Ave. - Rt. 3 - Phase I & II)	1,650,000
9	March 1983	Misc. Sewer Repairs	115,000
10	April 1983	Misc. Sewer Repairs	458,000
11	May 1983	WWTP Effluent Box - Damage Evaluation	4,000
12	June 1983	Sewer Repairs (Monsanto Ave.)	<u>132,000</u>
		TOTAL	\$6,170,000

WGK 1484069



The soils consist of poorly to well drained sandy, silty and clayey soils overlying granular deposits. The fill soil is underlain by bedrock at depths varying between 100 and 120 feet below the surface. The soils generally fall into two major soil classifications; the Landes-Riley-Cairo Association and the Darwin-Cairo Association. Both soil associations are characterized by "high" groundwater tables.

As shown graphically, later in this report, the groundwater level directly coincides with river stage. During storm events, the flat topography increases the effect on infiltration, due to the subsequent ponding and moderate runoff conditions. Due to the fine grained silt and sand deposits, the groundwater level, and subsequent infiltration, rises in direct proportion to the river stage. This condition directly influences the amount of infiltration entering the sewer system. In addition, the fluctuating groundwater table, over many years, has affected the structural integrity of the sewer system to a point where major sewer breaks and collapses have occurred. Numerous sewer reaches and areas are currently in danger of collapse creating a situation of imminent emergency and hazardous conditions.

During the past year, the unusual high groundwater table has caused numerous sinkholes over sewer collapse areas, which mandated major emergency repair situations. A number of known sinkholes associated with major sewer problems need to be repaired in order to prevent future emergency and hazardous conditions. Due to the silty soil conditions, excessive infiltration tends to cause large sinkholes.

WGK 1484071

4.0 HYDRAULIC FLOW ANALYSIS

4.1 General

In order to determine the infiltration-inflow contribution to the Village of Sauget sewer system, an in-depth analysis of industrial flows, residential flows, storm flows, and their associated characteristics was performed. As described in subsequent tables and exhibits, the average industrial flows and the residential dry weather flows were combined and utilized as a base flow parameter. All flows recorded at the Village of Sauget treatment plant, that exceeded the base flow or "dry weather flow", were considered as infiltration and/or inflow within the Village owned sewer system. All infiltration within the privately owned industrial sewer systems was included in the recorded industrial flow records, thus the infiltration parameters derived represent the infiltration occurring solely within the Village owned sewer system.

*Plongato
Include S Truck
I and I*

After a review of record data, it was determined to utilize the data recorded during 1983 since the year as a whole produced good representation of high and low periods of rainfall, groundwater, etc. All of the industrial flow to the Village of Sauget's sewer system is monitored on a daily basis as is the recorded data at the municipal treatment facility. In addition, groundwater levels and daily river stages, recorded with the plant data, were analyzed and correlated to the various parameters.

The subsequent sections of the report discuss and analyze three primary considerations: 1) wastewater flow parameters and their fluctuations; 2) infiltration/inflow conditions and their magnitude; and 3) a cost-effective evaluation of the cost to transport and treat infiltration.

WGK 1484072

4.2 Investigation of Wastewater Flow

Although substantial repairs and additions have been made to the municipal sewer system in previous years, it appears that the severity of the need for major repair work and additions has increased dramatically over the past couple of years. Since the late 1982 flood and the associated high groundwater, major breaks and related sinkholes have occurred on an ongoing basis. The total flows at the municipal treatment plant during 1983 have increased accordingly. Because of these occurrences and the fact that high and low groundwater periods were evident during 1983, the recorded flow data of 1983 was chosen to evaluate the flow conditions.

Table 3 summarizes the average monthly and yearly flow conditions for the plant and base flow parameters. The recorded plant flow includes stormwater excess flows which are stored and treated in the excess flow lagoon and settling basin. The base flow includes the industrial flows plus the residential dry weather flows. The average monthly parameters for the plant flow and the base flow are 9.45 MGD and 8.33 MGD respectively.

A tabulation of the major industrial flows is shown on Table 4. The industrial flow is monitored and recorded on a daily basis and includes the infiltration from the private industrial sewer systems.

River stages, recorded daily at the municipal plant, were evaluated and correlated to the plant annual base flow conditions. A graphical representation of total plant flows versus river stage is shown on Exhibit 2. By examining the graph, it is readily apparent that a direct correlation can be made between high and low plant flows and river stage conditions; as the river stage and its associated groundwater increase, the plant flow increases proportionally. This effect was also correlated to the average monthly infiltration and inflow as shown on the graph.

WGK 1484073

TABLE 3
AVERAGE FLOW PARAMETERS
(1983)

<u>Month</u>	<u>Plant Flow (MGD) (1)</u>	<u>Base Flow (MGD) (2)</u>
Jan.	8.15	6.84
Feb.	8.86	8.21
March	9.61	8.90
April	10.83	8.68
May	11.02	9.50
June	12.17	11.00
July	10.22	10.30
Aug.	8.65	8.67
Sept.	7.89	7.84
Oct.	8.63	7.55
Nov.	8.57	6.60
Dec.	8.83	5.95
Average Monthly	9.45	8.33
Average Minimum Monthly	7.89	5.95
Average Maximum Monthly	12.17	11.00

(1) Village of Sauget Treatment Works - includes stormwater overflow

(2) Total average industrial flow plus residential dry weather flow

WGK 1484074

TABLE 4
MAJOR INDUSTRIAL FLOW PARAMETERS
(1983)

<u>INDUSTRY</u>	<u>AVERAGE DAILY FLOW (MGD)</u>
Amax Zinc Company	.368
Cerro Copper & Brass Company	.613
Clayton Chemical Company	.171
Edwin Cooper, Inc.	.455
Midwest Rubber Reclaiming Company	.515
Monsanto Chemical Company	6.162
TOTAL AVERAGE INDUSTRIAL FLOW	8.284

WGK 1484075

In review of historical plant data, it appears that the total overall wastewater flows have not changed significantly over the past couple of years. Since a substantial decrease in the base flow parameter, industrial flow plus residential dry weather flow, has taken place, it appears that the increase in flow was due to extraneous flow conditions, infiltration and/or inflow.

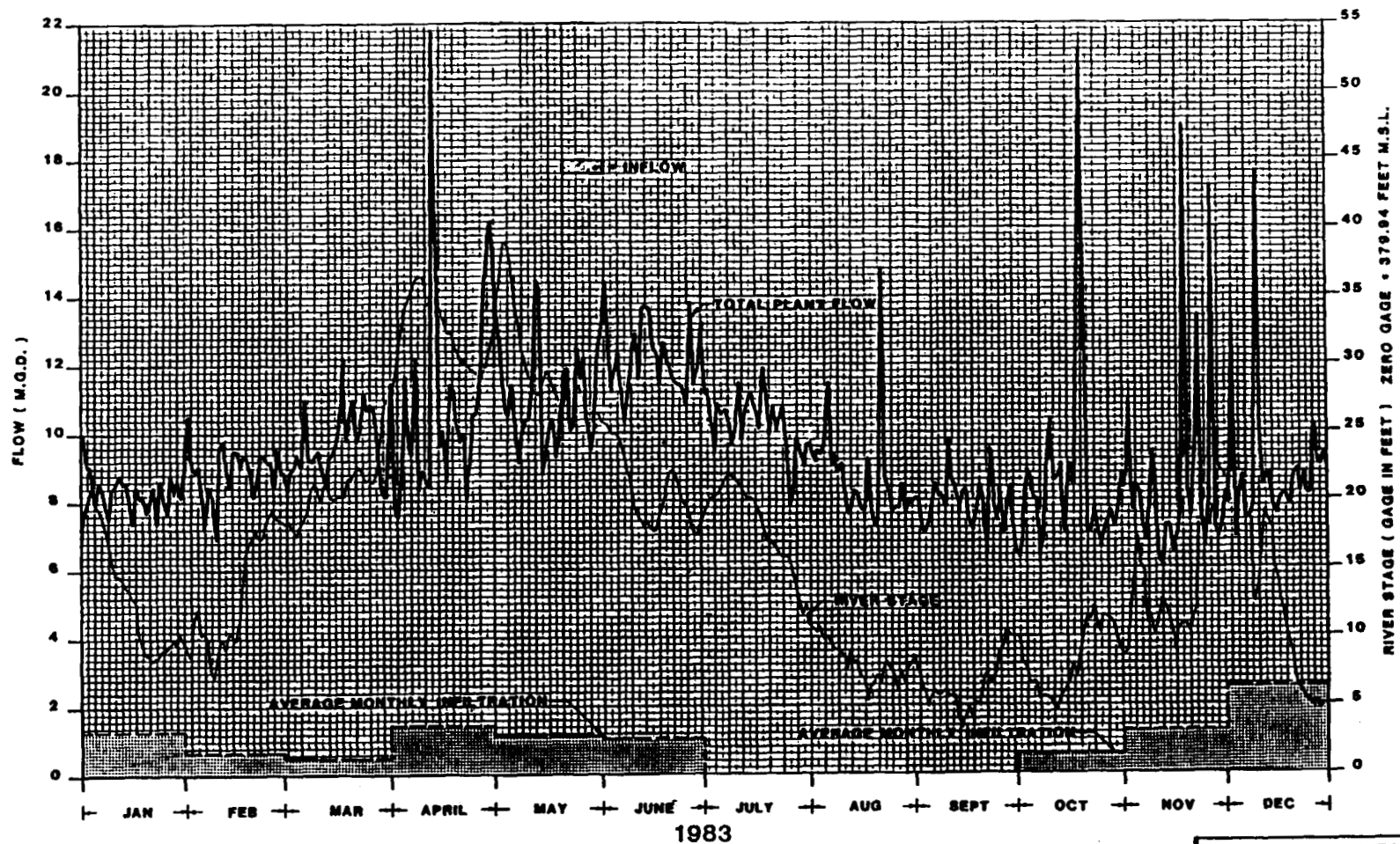
Due to flooding and high groundwater conditions in the later part of 1982, major breaks and sinkholes developed within the sewer system. Since that time, additional sinkholes and structurally unsafe sewer conditions have continued to develop during the high groundwater periods of 1983. The increasing number of sewer breaks and developing sinkholes appears to be on an accelerated course over the past couple of years. The subsequent analysis and discussion of the current infiltration-inflow conditions demonstrates the severity of the infiltration, its degrading impact on the municipal sewer system, and its potential for creating emergency and hazardous conditions.

4.3 Investigation of Infiltration-Inflow

As previously discussed, the flow data from 1983 demonstrates a significant amount of infiltration. It also appears that the recent sewer breaks and associated sinkholes have significantly contributed to the increase in infiltration quantity. As graphically illustrated on Exhibit 2, infiltration represents a significant component of the total flow, and can be directly correlated to the rise in river stage and groundwater.

As shown on Table 5, the average yearly infiltration was determined to be 0.84 MGD while the peak monthly infiltration was 2.54 MGD. The peak monthly infiltration occurred during December 1983 which also was a high groundwater river stage period. The individual monthly infiltration-inflow parameters are shown on Table 6. The average yearly infiltration equates to 6,230 gpd/in.-dia./mile of sewer, while the peak monthly infiltration represents

WGK 1484076



MGK 1484077

PLANT FLOW vs.
RIVER STAGE
HYDROGRAPH

FEBRUARY, 1984

FIGURE 2

TABLE 5
FLOW PARAMETER SUMMARY
(1983)

<u>PARAMETER</u>	<u>FLOW (MGD)</u>
Average Plant Flow(1)	9.45
Average Base Flow(2)	8.33
Average Industrial Flow	8.28
Average Yearly Infiltration	0.84
Peak Monthly Infiltration	2.54
Average Inflow	0.28

(1) Village of Sauget Treatment Works; includes stormwater overflow

(2) Total average industrial flow plus residential dry weather flow

WGK 1484078

TABLE 6
INFILTRATION/INFLOW PARAMETERS
(1983)

MONTH	INFILTRATION		INFLOW	
	FLOW (MGD)	% OF TOTAL (1)	FLOW (MGD)	% OF TOTAL (1)
Jan.	1.24	15.2	.062	0.7
Feb.	0.63	7.1	.021	0.2
March	0.50	5.2	.209	2.1
April	1.44	13.3	.718	6.6
May	1.12	10.2	.402	3.6
June	1.06	8.7	.109	0.9
July	--	--	.005	--
Aug.	--	--	.282	3.3
Sept.	--	--	.044	0.5
Oct.	0.60	6.9	.486	5.6
Nov.	1.28	14.9	.693	8.0
Dec.	2.54	28.7	.342	3.9
AVERAGE	0.84	8.9	0.28	3.0

Average Yearly Infiltration⁽²⁾ = 6,230 gpd/in.-dia./mile of sewer

Peak Monthly Infiltration⁽²⁾ = 18,850 gpd/in.-dia./mile of sewer

(1) % of total plant flow

(2) Refer to Table 1

(3) During July, August, and September, base flow was somewhat greater than plant flow. Thus no average infiltration was recordable due to low groundwater conditions.

WGK 1484079

18,850 gpd/in.-dia./mile of sewer. These parameters indicate a severe and excessive amount of infiltration since infiltration rates above 3,000 gpd/in.-dia./mile of sewer are generally considered excessive and cost effective to rehabilitate.

The infiltration rate has increased significantly within the past couple of years mainly due to major structural failures and deterioration within the sewer system. The numerous sinkholes and associated sewer failures that occurred during 1983, represent documented proof and correlation of the increasing severity of the excessive infiltration conditions.

4.4 Infiltration Cost Evaluation

The annual cost associated with the transport and treatment of the extraneous flows, particularly infiltration, creates a situation where reduction of the infiltration would be cost effective in the long term analysis. After the regional plant is placed in operation, the cost to transport and treat the excessive infiltration existing in the Village of Sauget's sewer system will be magnified. Costs associated with the excessive infiltration will be attributable to the annual operating and maintenance costs for both the regional plant and the Village owned collection and treatment facility.

Based on last year's audit, the operating and maintenance cost for the Village of Sauget's treatment system was \$2,300,000 or \$0.67/1000 gallons. Assuming a direct proportion, the annual cost associated with treatment of the average yearly infiltration of 0.84 MGD would be approximately \$205,000 per year. The projected operating and maintenance cost of the new regional plant is \$0.90/1000 gallons, and utilizing a direct proportion as outlined above, the annual cost to treat the excessive infiltration equates to \$276,000 per year.

WGK 1484080

The total annual cost to treat the current average infiltration, after the regional plant is in operation, is \$481,000 per year. Assuming this annual cost remains constant over the next twenty years, the present worth capital cost associated with an annual expenditure of \$481,000 per year, is estimated to be \$4,088,500.

Assuming that the infiltration rate will remain constant over the next 20 years is conservative since the recent accelerated pattern of sewer system failures will only increase the infiltration rate as time goes on. The average annual repair and improvement cost, as stated in Article 3.3 of this report, is \$617,000 per year. Assuming the past average repair cost remains constant over the next 20 years, the present worth of these annual repairs is \$5,244,500. Combining this with the total operating present worth cost, the total present worth cost which can be related to average infiltration and rehabilitation is \$9,333,000.

WGK 1484081

5.0 RECOMMENDED REPAIRS AND IMPROVEMENTS

5.1 General

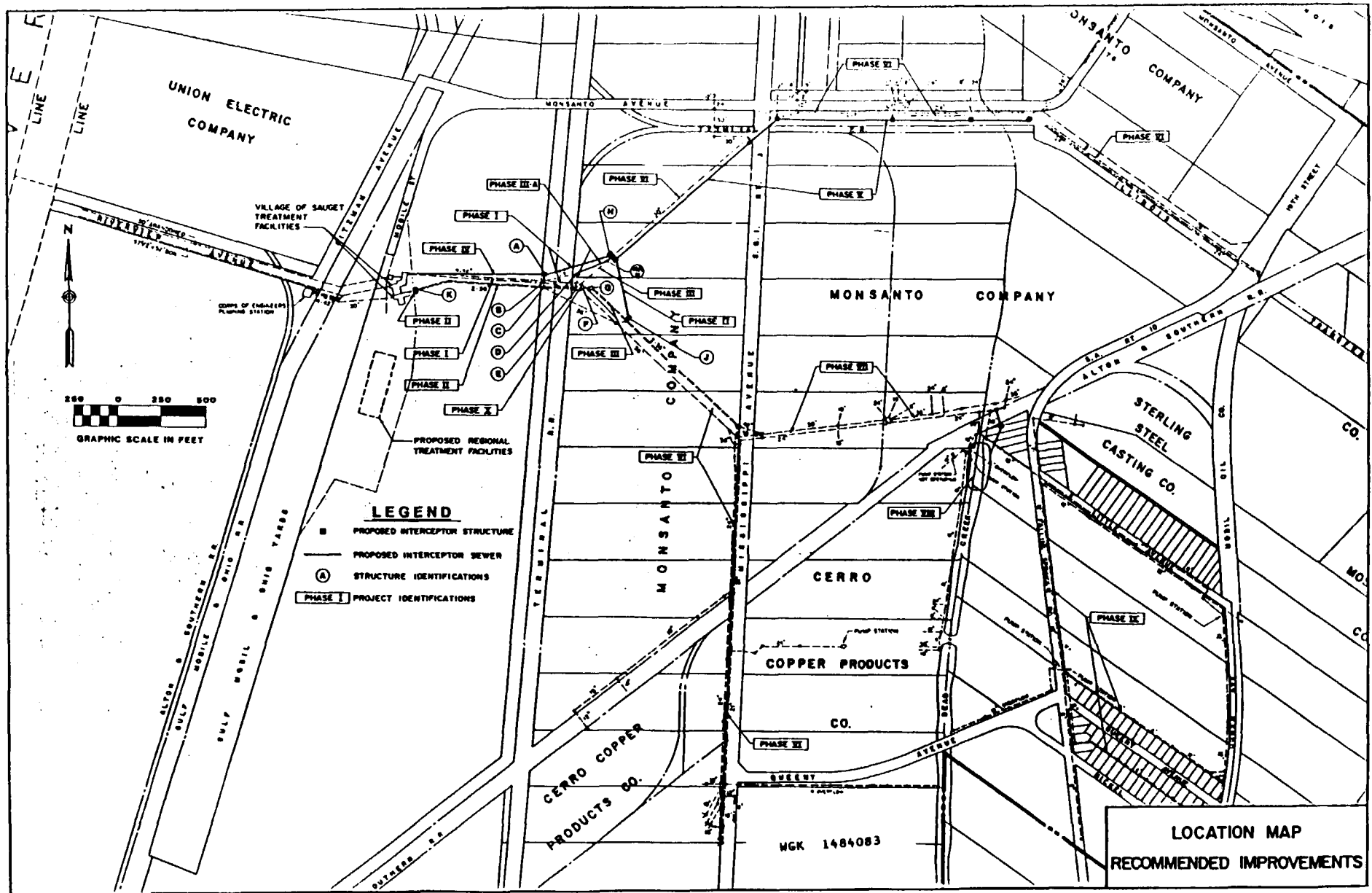
Due to the relative nature and size of the required repairs and improvements, the project has been segmented into phases characterized by specific project identifications. Due to the large flows involved and their continual nature, some of the individual projects require construction of by-pass sewers and/or continual by-pass pumping during construction. In addition, some by-pass lines are needed to safeguard the future integrity of the sewer system if future repairs become necessary. The specific location and letter designation of the projects and points of reference are presented on Figure 3. A preliminary estimate, according to project designation, is presented in tables following this report section.

5.2 Outline of Repairs and Improvements

PHASE I) The existing 36" line, constructed in the 1930's, under the Terminal Railroad tracks (between interceptor box B and E) has been the source of sinkholes and emergency repairs within the past couple of years. Four lines of similar age and condition were abandoned in 1975 due to settlement and structural failure. A preliminary investigation of this line has demonstrated that the line has deteriorated to such a condition that it is structurally unsafe and is beyond repair. Due to the recent sinkholes, emergency repairs to the railroad tracks and their foundation has been required.

Prior to abandoning the old 36" line, a new 42" line is required between new interceptor boxes A and H. The remaining 36" line initiating at interceptor box B and running to the Village's treatment facility is also in need of major repairs but from a preliminary investigation, it appears that

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this line can be rehabilitated by cleaning, televising, and pressure grouting the joints.

In addition to the above, the settlement under the railroad tracks needs to be permanently repaired.

PHASE II) After a preliminary investigation, it appears that in order to perform the needed repairs and rehabilitation under this project designation, a new 42" line will be required between interceptor boxes J and H. It is anticipated that the repairs described below will be extensive and time consuming which precipitates the need for a bypass line during construction. In addition, this line will serve as a relief sewer under high flow conditions and a permanent avenue for flow diversion when additional repairs to associated lines are required in the future.

Once this new line has been installed and the flow diverted, it is recommended that cleaning, televising, grouting, and rehabilitation be performed in the following areas. The two (2) - 36" lines running west from interceptor box C to the treatment facility should be cleaned, televised, and grouted including a new cleanout manhole at the treatment plant. The existing 30" line between interceptor box E and H should also be cleaned, televised, and grouted. This can only be performed once the new lines from interceptor boxes H and A and interceptor boxes H and J are completed. The two (2) - 36" lines from interceptor box J to box F should be cleaned, televised, and grouted. In addition, it appears from visual inspection that substantial repairs to interceptor boxes E, F, and G are required.

PHASE III & IIIA) Due to the past history of repairs to the interceptor sewers running under the Terminal Railroad tracks, major rehabilitation to this area and its associated lines or replacement of individual lines and miscellaneous modifications is required. In order to cost

WGK 1484084

effectively evaluate this area, two (2) alternatives, Phase III and IIIA, were studied.

Phase III consists of cleaning, televising, and grouting the two (2) - 36" lines from interceptor box J to E, and the 30" line from Manhole H to interceptor box E. In addition, significant repairs to boxes E, F, and G would be required.

Phase IIIA consists of tunneling a new 36" line under the Terminal Railroad tracks and construction of the proposed interceptor box H. Manhole H would be eliminated and repairs to box D would be included. In addition, the existing 36" line from box D to E would be abandoned.

The most cost effective and reliable alternative appears to be Phase IIIA, which constitutes the recommended alternative.

PHASE IV) Due to past abandonment of 36" lines transporting flow to the treatment facility, a new 42" line from interceptor box A and Village-owned treatment facility is required in order to prevent further surcharging and damage to the sewer system. Due to the close proximity of Union Electric property and overhead lines, substantial sheet piling will be required. In addition, this new line will be required while repairs, described above, are taking place.

The past abandonment of the existing lines was mandated by structural failure of the sewer system in recent years and to insure the integrity of the existing railroad system.

PHASE V) The capacity of the existing lines along Monsanto Avenue and leading to existing interceptor box E are not of adequate capacity to transport the combined flows. In addition, these lines are a source of major infiltration and are in need of structural repair. Due to the continual flow nature of these sewers and the inability to bypass the flows to another line, cleaning, televising and grouting of these lines cannot be performed unless a

WGK 1484085

new parallel line is first constructed. The new line would serve a dual purpose by adding the needed increase in capacity to this area and serving as a bypass line so cleaning, televising, and grouting can be performed in a subsequent phase.

Phase V consists of constructing a new 42" line along Monsanto Avenue and extending to interceptor box H. Also included are a number of interconnects to the existing lines accompanied by new junction structures.

PHASE VI) Based on preliminary investigations and the history of past repairs and problem areas, cleaning, televising, and grouting of various sewers, as shown on Exhibit 3, are required. In addition, repairs and rehabilitation, to the associated manholes and interceptor boxes along this sewer reach will also be required.

PHASE VII) The existing sewer system from Route 3 to the Alton and Southern Railroad does not have adequate hydraulic capacity to transport the existing flows and is in need of significant rehabilitation. Monsanto Chemical Company will be installing their own 42" line in the very near future, which will significantly increase the system hydraulic capacity. Once this is installed, the existing sewers within this area can be upgraded and rehabilitated. The combination of Monsanto's proposed 42" line and the rehabilitation of the existing sewers will enhance the hydraulic capacity and reduce surcharging of the existing lines.

Once Monsanto's waste is removed from this reach of sewer lines, it will be feasible to rehabilitate the existing sewer system in this area by utilizing the "insituform" technique of lining sewers. The insituform process has already been used within the Village's residential area with good success and can be used successfully where caustic wastes are not present. Also included in this project are much needed repairs to many of the existing interceptor boxes and manholes.

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PHASE VIII) In an effort to reduce the stormwater entering the sewer system and to eliminate any bypass overflow conditions from the existing pump stations, a stormwater detention basin and associated pump station were previously proposed by report dated May 1983. The project consisted of transforming part of Dead Creek into a stormwater detention basin and collecting the stormwater bypass from the surrounding area in the detention basin until such time that the flows within the sewer system subsided and the retained overflow could be pumped back into the system. The main purpose of this project would be to eliminate the serious basement backup condition that currently exists within the residential area and to reduce the surcharging effect in sewers downstream.

PHASE IX) In order to complete a phased project started some years ago, it is recommended that the sewers serving the residential area between Queeny Avenue and Nickel Street and the residential sewers along Falling Springs Road be rehabilitated using the insituform technique. The sewers in this area have been the source of numerous basement backups during significant flow conditions. It appears that the previously installed insituform has helped to reduce the occurrence of basement backups but continuation of the project is necessary. In addition, the existing 6" sewer lines should be replaced with 8" sewer to conform to current regulations and add needed hydraulic capacity.

PHASE X) As described under previous phases, the construction of new lines and associated structures will enable the Village to abandon the Terminal Railroad box (Structure E) and the associated lines. Due to the severe deterioration of this structure and the associated lines, significant future repairs will be necessary if they are allowed to remain in use. Since other avenues to transport the combined sewer flows are included in prior stages, the

WGK 1484087

abandonment of this structure and its associated sewer lines is warranted.

Phase X basically consists of the necessary requirements to perform the above described abandonment.

WGK 1484088

TABLE 7
PRELIMINARY COST ESTIMATE
PHASE I

<u>ITEM</u>	<u>COST</u>
Clean, Televise, Pressure Grout - 36" Line	\$ 75,000
Repair Boxes B & C & Box A Stub	492,000
Interceptor Box A	226,000
Interceptor Box H	182,000
Dewatering for Box A & H	162,000
Abandonment of 36" Interceptor	51,000
Tunnel 42" Under Tracks	469,000
Bypass Pumping	<u>237,000</u>
Subtotal	\$1,894,000
Contingencies	<u>189,000</u>
Total Construction Cost	\$2,083,000
Engineering & Construction Inspection	<u>192,000</u>
TOTAL PROJECT COST - PHASE I	\$2,275,000

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TABLE 8
PRELIMINARY COST ESTIMATE
PHASE II

<u>ITEM</u>	<u>COST</u>
Interceptor Box K	\$ 280,000
Clean, Televis, and Grout - 36" Lines	150,000
Interceptor Box J	165,000
Install 42" Line	265,000
Dewatering	<u>275,000</u>
Subtotal	\$1,135,000
Contingencies	<u>113,000</u>
Total Construction Cost	\$1,248,000
Engineering & Construction Inspection	<u>134,000</u>
TOTAL PROJECT COST - PHASE II	\$1,382,000

WGK 1484090

TABLE 9
PRELIMINARY COST ESTIMATE
PHASE III

<u>ITEM</u>	<u>COST</u>
Clean, Televise, & Grout 2 - 36" Lines	\$ 30,000
Clean, Televise, & Grout 30" Line	16,000
Repair Boxes E and F	276,000
Repair Box G	130,000
Dewatering	<u>188,000</u>
Subtotal	\$640,000
Contingencies	<u>64,000</u>
Total Construction Cost	\$704,000
Engineering & Construction Inspection	<u>105,000</u>
TOTAL PROJECT COST - PHASE III	\$809,000

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TABLE 10
PRELIMINARY COST ESTIMATE
PHASE III-A

<u>ITEM</u>	<u>COST</u>
Tunnel 36" Line under Tracks	\$224,000
Eliminate MH H & Connect to Box H	39,000
Repair Box D	75,000
Abandon 36" Line	5,000
Dewatering	<u>152,000</u>
Subtotal	\$495,000
Contingencies	<u>50,000</u>
Total Construction Cost	\$545,000
Engineering & Construction Inspection	<u>58,000</u>
TOTAL PROJECT COST - PHASE IIIA	\$603,000

WGK 1484092

TABLE 11
PRELIMINARY COST ESTIMATE
PHASE IV

<u>ITEM</u>	<u>COST</u>
Sheet Piling	\$ 200,000
42" Line from Box A to WWTP	421,000
Connection at WWTP	98,000
Dewatering	251,000
Remove Fence & Support Overhead Electric	115,000
Reinstall Fence, Backfill & Cleanup	<u>20,000</u>
Subtotal	\$1,105,000
Contingencies	<u>110,000</u>
Total Construction Cost	\$1,215,000
Engineering & Construction Inspection	<u>100,000</u>
TOTAL PROJECT COST - PHASE IV	\$1,315,000

WGK 1484093

TABLE 12
PRELIMINARY COST ESTIMATE
PHASE V

<u>ITEM</u>	<u>COST</u>
42" Line (West of Route 3)	\$ 543,000
42" Line (Tunnel under Route 3)	275,000
42" Line (along Monsanto Avenue)	1,238,000
Interceptor Structures	330,000
Interconnect & Repair Existing Manholes (1)	869,000
Dewatering	847,000
Paving Restoration & Cleanup	<u>52,000</u>
Subtotal	\$4,154,000
Contingencies	<u>415,000</u>
Total Construction Cost	\$4,569,000
Engineering & Construction Inspection	<u>325,000</u>
TOTAL PROJECT COST - PHASE V	\$4,894,000

(1) Includes bypass pumping

WGK 1484094

TABLE 13
PRELIMINARY COST ESTIMATE
PHASE VI

<u>ITEM</u>	<u>COST</u>
Repair Existing Manholes	\$ 495,000
Clean, Televis, and Grout:	
2725 L.F. - 36"	265,000
2000 L.F. - 30"	162,000
4615 L.F. - 24"	299,000
2000 L.F. - 21"	113,000
2280 L.F. - 18"	<u>111,000</u>
Subtotal	\$1,445,000
Contingencies	<u>145,000</u>
Total Construction Cost	\$1,590,000
Engineering & Construction Inspection	<u>114,000</u>
TOTAL PROJECT COST - PHASE VI	\$1,704,000

WGK 1484095

TABLE 14
PRELIMINARY COST ESTIMATE
PHASE VII

<u>ITEM</u>	<u>COST</u>
Insituform Existing Lines	
700 L.F. - 36"	\$ 146,000
750 L.F. - 30"	144,000
1450 L.F. - 24"	216,000
Repair Existing Manholes	<u>726,000</u>
Subtotal	\$1,232,000
Contingencies	<u>123,000</u>
Total Construction Cost	\$1,355,000
Engineering & Construction Inspection	<u>151,000</u>
TOTAL PROJECT COST - PHASE VII	\$1,506,000

WGK 1484096

TABLE 15
PRELIMINARY COST ESTIMATE
PHASE VIII

<u>ITEM</u>	<u>COST</u>
Inlet Structures	\$ 73,000
Interceptor Box	20,000
Pumping Station	200,000
Piping and Associated Dewatering	593,000
Retention Pond	805,000
Miscellaneous	<u>55,000</u>
Subtotal	\$1,746,000
Contingencies	<u>175,000</u>
Total Construction Cost	\$1,921,000
Engineering & Construction Inspection	<u>195,000</u>
TOTAL PROJECT COST - PHASE VIII	\$2,116,000

WGK 1484097

TABLE 16
PRELIMINARY COST ESTIMATE
PHASE IX

<u>ITEM</u>	<u>COST</u>
Insituform:	
2400 L.F. - 8"	\$ 198,000
350 L.F. - 10"	31,000
1150 L.F. - 12"	108,000
400 L.F. - 15"	42,000
175 L.F. - 18"	20,000
8" Sewer Pipe	172,000
Repair Existing Manholes	<u>18,000</u>
Subtotal	\$ 589,000
Contingencies	<u>59,000</u>
Total Construction Cost	\$ 648,000
Engineering & Construction Inspection	<u>60,000</u>
TOTAL PROJECT COST - PHASE IX	\$ 708,000

WGK 1484098

TABLE 17
PRELIMINARY COST ESTIMATE
PHASE X

<u>ITEM</u>	<u>COST</u>
Abandon Terminal Railroad Structure and Associated Sewer Lines	\$ 86,000
Contingencies	<u>9,000</u>
Total Construction Cost	\$ 95,000
Engineering & Construction Inspection	<u>4,000</u>
TOTAL PROJECT COST - PHASE X	\$ 99,000

WGK 1484099

6.0 CONCLUSIONS

During the past ten (10) years, the Village of Sauget has experienced significant cost expenditures to repair and rehabilitate their 50-year old sewer system. Within the last couple of years, the deterioration to the structural integrity of the sewer system has increased at an accelerated rate causing major sinkholes and emergency repair situations. The flooding conditions and associated high groundwater table in late 1982 and early 1983 appear to be the primary cause for the accelerated rate of failing sewers.

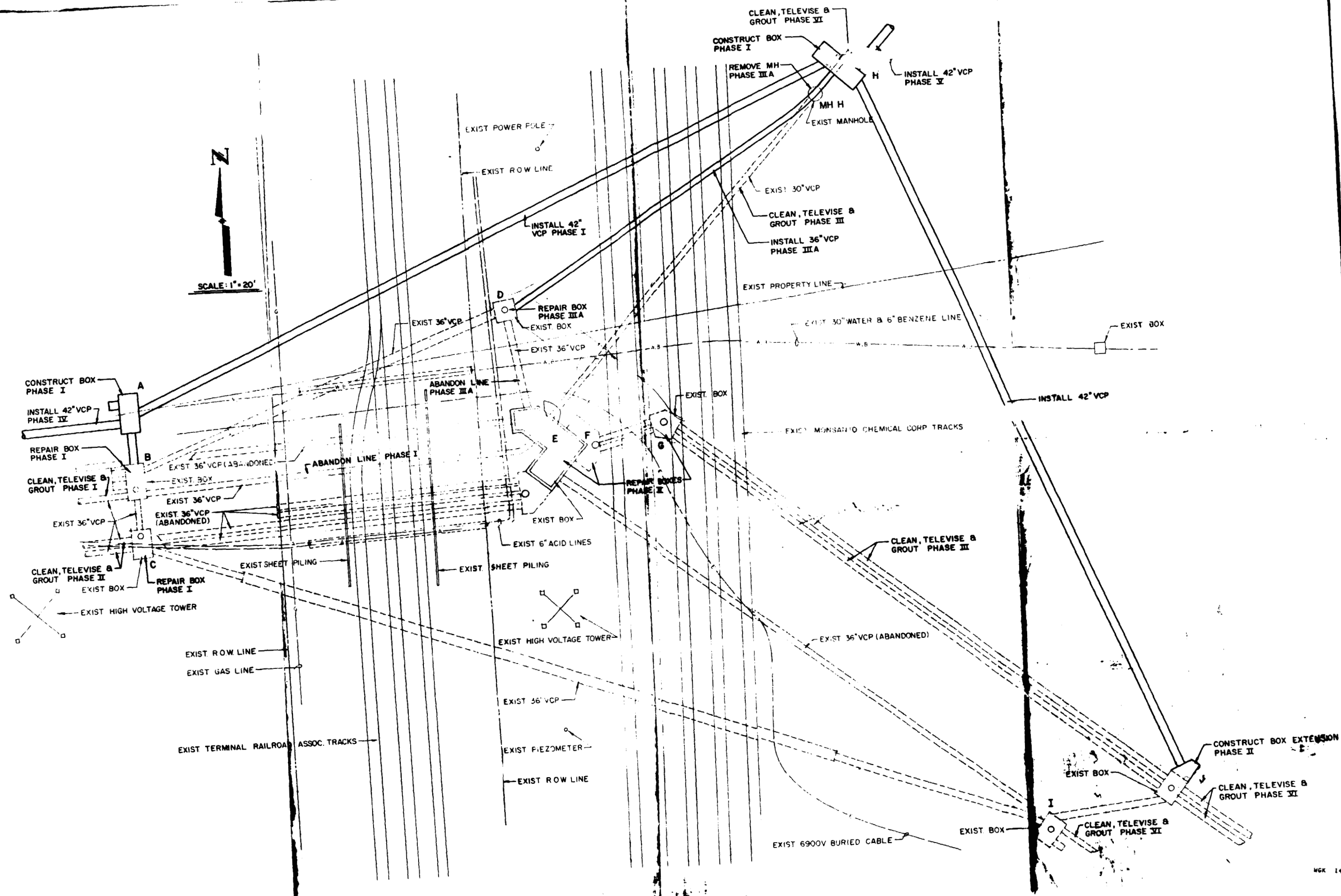
A substantial increase in the infiltration rate has been accompanied by the accelerated rate of emergency repairs and sinkhole conditions. As demonstrated in the report, the average annual infiltration during 1983 was 0.84 MGD or 6,230 gpd/in.-dia./mile of sewer, while the peak monthly infiltration was 2.54 MGD or 18,850 gpd/in.-dia./mile of sewer. The above infiltration rates are exceedingly high and excessive, since as a rule of thumb, infiltration rates greater than 3,000 gpd/in.-dia./mile of sewer are considered to be excessive and generally cost effective to rehabilitate. Including the average yearly cost of repairs and rehabilitation, the total annual operating cost to transport and treat the average annual infiltration was estimated at \$1,098,000/year which, over a 20-year period, equates to a present worth cost of \$9,333,000.

The three (3) primary reasons that justify the recommended repairs, additions, and rehabilitation to the sewer system are the excessive infiltration; the unusual nature of the wastes that are transported in the sewer system; and the elimination of basement backups in the residential area. Due to the acidic and toxic nature of the waste stream, a major break and/or structural failure of the sewer system would create a very dangerous and hazardous situation. It appears, after investigation of the recent accelerated rate of major sewer failures, that additional and possibly more severe

emergency situations are imminent. Because of this, the recommended repairs and rehabilitation methods should be investigated as soon as possible.

The latest evidence, as outlined in the report, demonstrates that the subject sewer system is experiencing excessive amounts of infiltration and the original Facility Plan should be amended accordingly. Due to the high costs involved in repairing and rehabilitating the sewer system, it appears that the proposed project is not economically feasible unless Federal and/or State grant assistance is available. It is also suggested that due to the unusual circumstances and the emergency nature of the situation, that special considerations are warranted.

WGK 1484101



P.H. WEIS & ASSOCIATES INC.
ENGINEERS / ARCHITECTS / PLANNERS
PROJECT NO. 7313-84-2

1.0 Bond Issue
1.15
4.2
2.9
2.15

BID TABULATION
VILLAGE OF SAUGET, ILLINOIS
SEWER REHABILITATION
PHASES I, II & IIIA

1.5
A TO Pch 2.0

DECEMBER 19, 1985

4.211

	J. S. Alberici Construction Co., Inc.	Keeley Bros. Contracting Company	McCarthy Brothers Company	Tarilton Corporation	Helmkamp Construction Company	
BID BOND	5%	5%	5%	5%	5%	
BASE BID	\$5,998,500.00	\$5,665,000.00	\$5,724,720.00	\$7,152,000.00	\$5,330,000.00	
ALTERNATE NO. 1 - 2' Furan Conc. Slab in Lieu of Furan Fiberglass Reinforced Panels	+60,000.00	+67,500.00	+51,634.00	+100,000.00	+60,000.00	
	+30 days	0 days	0 days	+200 days	0 days	
ALTERNATE NO. 2 - Open Excavate in Lieu of Tunnelling	+65,000.00	+225,000.00	+276,345.00	+1,000,000.00	-50,000.00	
	+30 days	+21 days	+30 days	+200 days	+30 days	
ALTERNATE NO. 3 - Furan Conc. Bullrings in Lieu of Arched Brick Bullrings	No Change	+57,000.00	-6,800.00	+70,000.00	No Bid	
	0 days	0 days	0 days	+30 days		
ALTERNATE NO. 4 - Oversize Tunnel to Construct Full Furan Tamping Mix Jt. in Tunnel	+525,000.00	+650,000.00	-90,900.00	+500,000.00	No Bid	
	+60 days	+86 days	-15 days	+100 days		
ADDENDA NOTED	1 Thru 4	1 Thru 4	1 Thru 4	1 Thru 4	1 Thru 4	

WGK 1484103

EPA/CERRO COPPER/EIL/PCB ATTORNEY WORK PRODUCT / ATTORNEY CLIENT PRIVILEGE

F - Project General

BID PROPOSAL
FOR THE
VILLAGE OF SAUGET
ST. CLAIR COUNTY, ILLINOIS

MOBILE STREET AND MONSANTO AVENUE SEWER IMPROVEMENTS

July 1, 1986

TO: VILLAGE OF SAUGET
2897 FALLING SPRINGS ROAD
ST. CLAIR COUNTY, ILLINOIS

1. The undersigned, having examined and being familiar with the local conditions affecting the work and with the contract documents including the drawings, the Notice to Contractors, Instructions to Bidders, Statement of Bidders Qualifications, General Conditions, Special Conditions and the body of technical specifications, including addenda 1 through 2 inclusive as issued by the Engineer/Architect, hereby propose to furnish all labor, materials, equipment, services, etc., required for the performance and completion of the aforementioned work, as follows:

FOR BASE BID: The sum of One Million One Hundred Seventy Five Thousand and 00/100 Dollars (\$ 1,175,000.00).

Alternate No. 1 - Add to or deduct from the base bid for installing Precast Furan Concrete Manholes in lieu of Standard Acid Brick Constructed Manholes.

Twenty Three Thousand Three Hundred \$ {23360.00} Add (Deduct)
WORDS sixty and 00/100
Time Extension/Deduction Required 0 days.

2. UNIT PRICES.

For changing specified quantities of work from those indicated by the contract drawings and specifications, upon written instructions of the Owner, the following unit prices shall prevail.

The following unit prices include all labor, overhead and profit, materials, equipment, appliances, bailing, shoring, shoring removal, etc., to cover the finished work of the several kinds of work called for.

WGK 1484104

Only a single unit price shall be given and it shall apply for either MORE or LESS work than that shown on the drawings and called for in the specifications or included in the Base Bid. In the event of more or less units than so indicated or included, change orders shall be issued for the increased or decreased amount.

A. Price per cubic yard for more or less earthwork including excavation, placing, compacting and grading:

1. Machine excavation per cubic yd. \$ 2.40
2. Hand excavation per cubic yd. \$ 57.09

B. Price for more or less general concrete work:

1. Per cubic yard concrete in place \$ 925.43
2. Per sq. foot of contact area of forms in place, including removal of forms \$ 3.30
3. Per pound of reinforcing steel in place \$.77

C. Price per lineal foot for more or less tunnelling of steel liner:

1. 30" I.D. \$ 428.73

D. Price per lineal foot for more or less trench excavation and backfill for 12" VCP at the following stages:

1. 0-5 feet deep \$ 39.27
2. 5-10 feet deep \$ 40.80
3. 10-15 feet deep \$ 289.01

E. Price per lineal foot for more or less VCP in place (Chemical Resistant Joints Concrete Encased):

1. 12" VCP \$ 254.83

F. Price per square foot for more or less chemical resistant manhole work in place:

1. Volclay Panels \$ 1.23
2. Asphaltic Membrane \$ 6.60
3. Furan Membrane \$ 12.10
4. Acid Bricks (Furan Mortar) \$ 66.00
5. Furan Fiberglass Reinforced Panel \$ 15.40

G. Price per batch for patching damaged concrete with epoxy cement grout:

\$ 300.00

H. Price for Owner ordered shutdown, excess groundwater, etc.:

1. Shutdown per day \$ 1000.00

2. Demobilization per each \$ 5000.00

3. Mobilization per each \$ 3000.00

I. Price per cubic foot of precast furan concrete:

\$ 264.00

J. The following unit prices shall prevail if a deep well dewatering system is required and so authorized by the Engineer for the Lift Station Site:

1. Lump sum price for furnishing all labor, equipment and materials necessary for installing and removing a deep well system complete in accordance with these specifications.

Fourteen Thousand Seven Hundred Twenty Lump Sum \$ 14724.60
WORDS Four and 60/100

2. Unit price per 24 hour day for furnishing all labor, equipment and materials necessary for maintaining and operating a deep well system in accordance with these specifications. Included in this price shall be the unit rental cost, if any, of the equipment.

Two Thousand Eighty Four and 50/100 (\$2084.50) Per Day
WORDS

K. The following unit prices shall prevail if a well point dewatering system is required and so authorized by the Engineer for installing 12" VCP:

1. Unit price per 24 hour day for furnishing all labor, equipment and materials necessary for installing, maintaining, operating, and removing a well point system. Included in this price shall be the unit rental cost, if any, of the equipment.

Twenty Four Hundred Twenty and 00/100 (\$2420.00) Per Day
WORDS

WGK 1484106

The Bidder hereby certifies that the following subcontractors will be used in the performance of the work. (If none, so indicate.)

Name and Address of Subcontractor	Work to be Performed
-----------------------------------	----------------------

NONE

EARTHWORK

NONE

CONCRETE

JANSCO CONSTRUCTION INC

225 HARTMANN RD COLUMBIA ILL 62236 CARPENTRY

STRANGE & COLEMAN

3314 HWY. 162 P.O. 1246 GRANITE CITY, ILL 62040 PLUMBING

LOWRY ELECTRIC

3000 MISSOURI AVE E. ST LOUIS IL 62205 ELECTRIC

AEFHODER INC

AIRPORT RD 19022 CHESTERFIELD MO 63107 BORING

J. IMRIE SALES

2823 PAPIN ST. LOUIS, MO 63103 PRECAST FURAN CONCRETE

NONE

CHEMICAL RESISTANT WORK

OTHERS

(Please attach additional sheets if necessary to extend subcontractor list.)

The undersigned Bidder agrees that if awarded a contract for the above work, he will complete said work within 180 work days, and from the date stipulated in the "General Conditions", and in accordance with "Information for Bidders", or allow the Owner as liquidated damages the sum of Five-Hundred Dollars (\$500.00) for each working day thereafter, Sundays and Holidays excepted, that the Contract remains uncompleted.

The Bidder hereby certifies that the following subcontractors will be used in the performance of the work. (If none, so indicate.)

Name and Address of Subcontractor	Work to be Performed
NONE	EARTHWORK
NONE	CONCRETE
JANSCO CONSTRUCTION INC 225 HARTMANN RD COLUMBIA ILL 62236	CARPENTRY
STRANGE & COLEMAN 3314 HWY. 162 P.O. 1246 GRANITE CITY, 62040 IL.	PLUMBING
LOWRY ELECTRIC 3000 MISSOURI AVE E. ST LOUIS IL 62205	ELECTRIC
AFFHOCOR INC AIRPORT RD 19022 CHESTERFIELD MO 63107	BORING
J. IMRIE SALES	PRECAST FURAN CONCRETE

The undersigned Bidder hereby represents that he has visited and examined the site of the work and has carefully examined the Contract which includes the INFORMATION FOR BIDDERS, BID PROPOSAL, CONTRACT, BONDS, DRAWINGS AND SPECIFICATIONS, and will execute the Contract and its items, covenants and conditions, all in strict conformity to the requirements of the specifications and drawings.

Enclosed is security consisting of Five Percent Bid Bond
_____. The undersigned hereby designates
4211 State Street, East St. Louis, Illinois 62205 as his office to
which notices may be delivered or mailed. WGK 1484108

DATED July 1, 1986



CHUBB GROUP of Insurance Companies

15 Mountain View Road, P.O. Box 1615, Warren, NJ 07063-1615

FEDERAL INSURANCE COMPANY

BID BOND

Bond No. E-80780429

Amount \$ 5% of Attached Bid

Know All Men By These Presents,

That we, Keeley Bros. Contracting Company
4211 State Street
East St. Louis, Illinois 62205

(hereinafter called the Principal),

as Principal, and the FEDERAL INSURANCE COMPANY, Warren, New Jersey, a corporation duly organized under the laws of the State of New Jersey, (hereinafter called the Surety), as Surety, are held and firmly bound unto

Village of Sauget, St. Clair County, Illinois.

(hereinafter called the Obligee),

in the sum of Five Percent (5%) of the Attached Bid Dollars
(\$5% of Bid), for the payment of which we, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Sealed with our seals and dated this First day of July
A. D. nineteen hundred and Eighty Six

WHEREAS, the Principal has submitted a bid, dated July 1, 19 86
for Mobile Street and Monsanto Avenue, Sewer Improvements,
Project No. PHW 7313-85-4

WGK 1484109

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a contract with the Obligee in accordance with such bid and give bond with good and sufficient surety for the faithful performance of such contract, or in the event of the failure of the Principal to enter into such contract and give such bond, if the Principal shall pay to the Obligee the difference, not to exceed the penalty hereof, between the amount specified in said bid and the amount for which the Obligee may legally contract with another party to perform the work covered by said bid, if the latter amount be in excess of the former, then this obligation shall be null and void, otherwise to remain in full force and effect.

Keeley Bros. Contracting Company
Principal

By: Michael J. Keeley Jr. President

FEDERAL INSURANCE COMPANY

By: Sheel M. Damborg
Attorney-in-Fact and
Illinois Resident Agent

Form 15-02-0002 (Rev. 7-83)

PRINTED
U.S.A.

ACKNOWLEDGMENT OF ANNEXED INSTRUMENT

STATE OF Illinois }
COUNTY OF St. Clair } ss.:

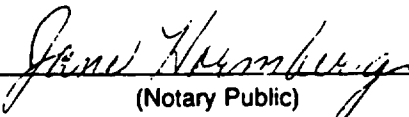
On this 1st day of July 19 86, before me personally came _____

Robert M. Hormberg who, being by me duly sworn, did depose and say that he is an Attorney-in-Fact of the FEDERAL INSURANCE COMPANY, and knows the corporate seal thereof; that the seal affixed to said annexed instrument is such corporate seal, and was thereto affixed by authority of the Power of Attorney of said Company, of which a Certified Copy is hereto attached, and that he signed said Instrument as an Attorney-in-Fact of said Company by like authority.

*Acknowledged and Sworn to before me
on the date above written*

My Commission Expires

February 25, 1987


(Notary Public)

WGK 1484110

POWER OF ATTORNEY

Know all Men by these Presents, That the FEDERAL INSURANCE COMPANY, 15 Mountain View Road, Warren, New Jersey, a New Jersey Corporation, has constituted and appointed, and does hereby constitute and appoint Robert M. Hormberg of Belleville, Illinois-----

each its true and lawful Attorney-in-Fact to execute under such designation in its name and to affix its corporate seal to and deliver for and on its behalf as surety thereon or otherwise, bonds of any of the following classes, to-wit:

1. Bonds and Undertakings filed in any suit, matter or proceeding in any Court, or filed with any Sheriff or Magistrate, for the doing or not doing of anything specified in such Bond or Undertaking.
2. Surety bonds to the United States of America or any agency thereof, including those required or permitted under the laws or regulations relating to Customs or Internal Revenue; License and Permit Bonds or other indemnity bonds under the laws, ordinances or regulations of any State, City, Town, Village, Board or other body or organization, public or private; bonds to Transportation Companies, Lost Instrument bonds; Lease bonds, Workers' Compensation bonds, Miscellaneous Surety bonds and bonds on behalf of Notaries Public, Sheriffs, Deputy Sheriffs and similar public officials.
3. Bonds on behalf of contractors in connection with bids, proposals or contracts.

In Witness Whereof, the said FEDERAL INSURANCE COMPANY has, pursuant to its By-Laws, caused these presents to be signed by its Assistant Vice-President and Assistant Secretary and its corporate seal to be hereunto affixed this 1st day of January 19 84

Corporate Seal



Richard D. O'Connor
Richard D. O'Connor
Assistant Secretary

FEDERAL INSURANCE COMPANY
By

George McClellan
George McClellan
Assistant Vice-President

STATE OF NEW JERSEY } ss.
County of Somerset

On this 1st day of January 19 84, before me personally came Richard D. O'Connor to me known and by me known to be Assistant Secretary of the FEDERAL INSURANCE COMPANY, the corporation described in and which executed the foregoing Power of Attorney, and the said Richard D. O'Connor being by me duly sworn, did depose and say that he is Assistant Secretary of the FEDERAL INSURANCE COMPANY and knows the corporate seal thereof; that the seal affixed to the foregoing Power of Attorney is such corporate seal and was thereto affixed by authority of the By-Laws of said Company, and that he signed said Power of Attorney as Assistant Secretary of said Company by like authority; and that he is acquainted with George McClellan and knows him to be the Assistant Vice-President of said Company, and that the signature of said George McClellan subscribed to said Power of Attorney is in the genuine handwriting of said George McClellan and was thereto subscribed by authority of said By-Laws and in deponent's presence.

Notarial Seal



STATE OF NEW JERSEY } ss.
County of Somerset

Acknowledged and Sworn to before me
on the date above written.

Alice Leonard
Notary Public

CERTIFICATION

ALICE LEONARD
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires June 28, 1988

I, the undersigned, Assistant Secretary of the FEDERAL INSURANCE COMPANY, do hereby certify that the following is a true excerpt from the By-Laws of the said Company as adopted by its Board of Directors on March 11, 1953 and most recently amended March 11, 1983 and that this By-Law is in full force and effect.

"ARTICLE XVIII.

Section 2. All bonds, undertakings, contracts and other instruments other than as above for and on behalf of the Company which it is authorized by law or its charter to execute, may and shall be executed in the name and on behalf of the Company either by the Chairman or the Vice-Chairman or the President or a Vice-President, jointly with the Secretary or an Assistant Secretary, under their respective designations, except that any one or more officers or attorneys-in-fact designated in any resolution of the Board of Directors or the Executive Committee, or in any power of attorney executed as provided for in Section 3 below, may execute any such bond, undertaking or other obligation as provided in such resolution or power of attorney.

Section 3. All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the Vice-Chairman or the President or a Vice-President or an Assistant Vice-President, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or lithographed."

I further certify that said FEDERAL INSURANCE COMPANY is duly licensed to transact fidelity and surety business in each of the States of the United States of America, District of Columbia, Puerto Rico, and each of the Provinces of Canada with the exception of Prince Edward Island; and is also duly licensed to become sole surety on bonds, undertakings, etc., permitted or required by law.

I, the undersigned Assistant Secretary of FEDERAL INSURANCE COMPANY, do hereby certify that the foregoing Power of Attorney is in full force and effect.

Given under my hand and the seal of said Company at Warren, N.J., this 1st day of July 19 86

Corporate Seal



J. Thomas
Assistant Secretary

WGK 1484111

BID PROPOSAL
FOR THE
VILLAGE OF SAUGET
ST. CLAIR COUNTY, ILLINOIS

MOBILE STREET AND MONSANTO AVENUE SEWER IMPROVEMENTS

July 1, 1986

TO: VILLAGE OF SAUGET
2897 FALLING SPRINGS ROAD
ST. CLAIR COUNTY, ILLINOIS

1. The undersigned, having examined and being familiar with the local conditions affecting the work and with the contract documents including the drawings, the Notice to Contractors, Instructions to Bidders, Statement of Bidders Qualifications, General Conditions, Special Conditions and the body of technical specifications, including addenda 1 through 2 inclusive as issued by the Engineer/Architect, hereby propose to furnish all labor, materials, equipment, services, etc., required for the performance and completion of the aforementioned work, as follows:

FOR BASE BID: The sum of Nine Hundred Fifteen Thousand Dollars
and no/cents Dollars (\$ 915,000.00)).

Alternate No. 1 - Add to or deduct from the base bid for installing Precast Furan Concrete Manholes in lieu of Standard Acid Brick Constructed Manholes.

Twenty-One Thousand Dollars and no/cents \$ 21,000.00 ~~ADD~~ (Deduct)
WORDS

Time Extension/~~REDUCTION~~ Required 30 days.

2. UNIT PRICES.

For changing specified quantities of work from those indicated by the contract drawings and specifications, upon written instructions of the Owner, the following unit prices shall prevail.

The following unit prices include all labor, overhead and profit, materials, equipment, appliances, bailing, shoring, shoring removal, etc., to cover the finished work of the several kinds of work called for.

WGK 1484112

Only a single unit price shall be given and it shall apply for either MORE or LESS work than that shown on the drawings and called for in the specifications or included in the Base Bid. In the event of more or less units than so indicated or included, change orders shall be issued for the increased or decreased amount.

A. Price per cubic yard for more or less earthwork including excavation, placing, compacting and grading:

- | | | |
|-------------------------------------|----|-------|
| 1. Machine excavation per cubic yd. | \$ | 5.00 |
| 2. Hand excavation per cubic yd. | \$ | 50.00 |

B. Price for more or less general concrete work:

- | | | |
|---|----|--------|
| 1. Per cubic yard concrete in place | \$ | 350.00 |
| 2. Per sq. foot of contact area of forms in place, including removal of forms | \$ | 6.00 |
| 3. Per pound of reinforcing steel in place | \$ | 1.00 |

C. Price per lineal foot for more or less tunnelling of steel liner:

- | | | |
|-------------|----|--------|
| 1. 30" I.D. | \$ | 350.00 |
|-------------|----|--------|

D. Price per lineal foot for more or less trench excavation and backfill for 12" VCP at the following stages:

- | | | |
|--------------------|----|-------|
| 1. 0-5 feet deep | \$ | 10.00 |
| 2. 5-10 feet deep | \$ | 20.00 |
| 3. 10-15 feet deep | \$ | 40.00 |

E. Price per lineal foot for more or less VCP in place (Chemical Resistant Joints Concrete Encased):

- | | | |
|------------|----|--------|
| 1. 12" VCP | \$ | 250.00 |
|------------|----|--------|

F. Price per square foot for more or less chemical resistant manhole work in place:

- | | | |
|--------------------------------------|----|-------|
| 1. Volclay Panels | \$ | 5.00 |
| 2. Asphaltic Membrane | \$ | 6.00 |
| 3. Furan Membrane | \$ | 12.50 |
| 4. Acid Bricks (Furan Mortar) | \$ | 50.00 |
| 5. Furan Fiberglass Reinforced Panel | \$ | 40.00 |

G. Price per batch for patching damaged concrete with epoxy cement grout:

\$ 500.00

H. Price for Owner ordered shutdown, excess groundwater, etc.:

1. Shutdown per day \$ 1,500.00

2. Demobilization per each \$ 7,500.00

3. Mobilization per each \$ 7,500.00

I. Price per cubic foot of precast furan concrete:

\$ 868.00

J. The following unit prices shall prevail if a deep well dewatering system is required and so authorized by the Engineer for the Lift Station Site:

1. Lump sum price for furnishing all labor, equipment and materials necessary for installing and removing a deep well system complete in accordance with these specifications.

Fifty-Thousand Dollars and no/cents Lump Sum \$ 50,000.00

WORDS

2. Unit price per 24 hour day for furnishing all labor, equipment and materials necessary for maintaining and operating a deep well system in accordance with these specifications. Included in this price shall be the unit rental cost, if any, of the equipment.

Two Thousand Dollars and no/cents (\$2,000.00) Per Day

WORDS

K. The following unit prices shall prevail if a well point dewatering system is required and so authorized by the Engineer for installing 12" VCP:

1. Unit price per 24 hour day for furnishing all labor, equipment and materials necessary for installing, maintaining, operating, and removing a well point system. Included in this price shall be the unit rental cost, if any, of the equipment.

Three Thousand Dollars and no/cents (\$3,000.00) Per Day

WORDS

WGK 1484114

The Bidder hereby certifies that the following subcontractors will be used in the performance of the work. (If none, so indicate.)

<u>Name and Address of Subcontractor</u>	<u>Work to be Performed</u>
None	EARTHWORK
None	CONCRETE
Jansco Construction Co., Inc. 225 Park Manor Columbia, IL 62236	CARPENTRY
Strange & Coleman, Inc. 3314 N. Highway 162 Granite City, IL 62040	PLUMBING
R. Dron Electrical Co., Inc. 1818 Cleveland Blvd. Granite City, IL 62040	ELECTRIC
Arrow Boring 400 Brookes, Suite 216 Hazelwood, MO 63043	BORING
Imrie-Gielow, Inc. 2823 Papin Street St. Louis, MO 63103	PRECAST FURAN CONCRETE
Chester Watters & Association Route #1, P.O. Box #161 Robertsville, MO 63072	CHEMICAL RESISTANT WORK

OTHERS

(Please attach additional sheets if necessary to extend subcontractor list.)

The undersigned Bidder agrees that if awarded a contract for the above work, he will complete said work within 180 work days, and from the date stipulated in the "General Conditions", and in accordance with "Information for Bidders", or allow the Owner as liquidated damages the sum of Five-Hundred Dollars (\$500.00) for each working day thereafter, Sundays and Holidays excepted, that the Contract remains uncompleted.

The undersigned Bidder hereby represents that he has visited and examined the site of the work and has carefully examined the Contract which includes the INFORMATION FOR BIDDERS, BID PROPOSAL, CONTRACT, BONDS, DRAWINGS AND SPECIFICATIONS, and will execute the Contract and its items, covenants and conditions, all in strict conformity to the requirements of the specifications and drawings.

Enclosed is security consisting of 5% of the Bid Amount
_____. The undersigned hereby designates
510 Alton St. Louis Road. Wood River. Illinois 62095 as his office to
which notices may be delivered or mailed.

DATED July 1, 1986

(NAME OF BIDDER: CORPORATION,
FIRM, PARTNERSHIP OR INDIVIDUAL)

Helmkamp Construction Company

BY John G. Helmkamp
John G. Helmkamp, Exec. Vice Pres.
510 Alton-St. Louis Road

Wood River. IL 62095
Business Address

WGK 1484116



P.H. WEIS & ASSOCIATES, INC.
ENGINEERS, ARCHITECTS, PLANNERS
12231 Manchester Road
St. Louis, Missouri 63131
Phone (314) 822-0320

CONTRACTOR'S QUALIFICATIONS

Helmkamp Construction Company

Name of firm and address with zip code

510 Alton-St. Louis Road, Wood River, IL 62095

July 1, 1986
Date

618/251-2600
Area code and telephone

Corporation



Partnership



Individual



CONSTRUCTION CAPABILITIES:

General



Electrical



Plumbing



Heating, Air Conditioning and Ventilation



Other

FOR CORPORATION ONLY

3/1/55

Delaware

Date of incorporation

Name of State(s) in which incorporated

Illinois

If not incorporated in Project's State: give Certificate of Authority to do business in that State

32910

Certificate No.

3/27/80

and date.

Byron L. Farrell

President's Name

John G. Helmkamp

Vice President's Name

James H. Laux

Secretary's Name

James H. Laux

Treasurer's Name

FOR PARTNERSHIP ONLY

Is the partnership: General ☐ Limited ☐ Association ☐

Date of Organization

1. Names and addresses of all partners with zip codes

2. _____

3. Use additional sheet if necessary.

GENERAL INFORMATION

75%

Percent (%) of work done by own staff

50

No. of permanent employees

2000 mi. Radius

Geographical limits of operation

51 years

No. years in business

G. Helmkamp Trucking & Excavating

If you have done business under different name, please give name and location.

No

Has firm ever failed to complete project or defaulted on a contract? If so, state where and why.

No

Has firm ever been engaged in litigation over any contract? If so, explain.

WGK 1484117

LIST OF COMPLETED PROJECTS WITHIN PAST FOUR YEARS, INCLUDING COST OF EACH:

See Attached

LIST OF PROJECTS CURRENTLY UNDER CONSTRUCTION, INCLUDING COST OF EACH:

See Attached

WGK 1484118



510 ALTON-ST. LOUIS ROAD
WOOD RIVER, ILLINOIS 62095
PHONE 618/251-2600

MAJOR PROJECTS IN PROGRESS

<u>CLIENT</u>	<u>TYPE OF WORK</u>	<u>CONTRACT AMT.</u> <u>CONTRACT TYPE</u>	<u>PRIME/SUB</u> <u>DATE</u> <u>COMPLETED</u>
Village of Sauget Sauget, IL	Cahokia Force Main E. St. Louis Pump Station, Effluent Pump Station & Outfall Sewer	\$12,200,000	Prime 6/23/86
IL. Dept. of Trans Dist. 8 Fairview Hgts, IL	Bridge Construction Contract #36645	\$3,131,000 Unit Price	Prime 5/15/86
IL. Dept. of Trans Dist. 8 Fairview Hgts, IL	Bridge Construction Contract #36647	\$12,668,000	Prime 1/1/87
IL Dept. of Trans. Dist. 8 Fairview Hgts, IL	I-255 Black Lane Bridge Deck Contract #36620	\$4,510,480	Prime 8/1/86
Monsanto Co. St. Louis, MO	Hydrogenations Control Bldg. - Phase I & II Civil/Structural Work	\$425,000	Prime 2/28/86
Piasa Sewer Alton, IL	Alteration to Piasa Sewer & Other Sewer Appurtenances	\$2,400,000 Lump Sum	8/16/86
Fidelity & Deposit Co. St. Louis, MO	Bridge Replacement Washington Park, IL	\$1,700,000 Lump Sum	8/1/86
Alton Telegraph Alton, IL	Building Modifications for New Press	\$250,000	3/31/86
Granite City Steel Granite City, IL	Concrete Foundations Gas Holder	\$116,000 Lump Sum	3/31/86

WGK 1484119

ST. LOUIS CONSTRUCTION:

TRIAD CONSTRUCTION INC. A SUBSIDIARY OF HELMKAMP CONSTRUCTION CO.
11843 MISSOURI BOTTOM RD. • P.O. BOX 545, HAZELWOOD, MO. 63042 • (314) 731-4171





510 ALTON-ST. LOUIS ROAD
WOOD RIVER, ILLINOIS 62095
PHONE 618/251-2600

MAJOR PROJECTS IN LAST FOUR YEARS

<u>CLIENT TYPE</u>	<u>TYPE OF WORK COMPLETED</u>	<u>CONTRACT AMT. CONTRACT TYP</u>	<u>PRIME/SUB DATE</u>
Edwin Cooper, Div. of Ethyl Corporation Sauget, IL	Wastewater Collection System	\$1,804,000 Lump Sum	Prime 1982
Canonie Wood River, IL	Supply and Haul Dirt	\$556,000 Unit Price	Sub 1982
IL Dept. of Trans. Dist. 8 Fairview, Hgts, IL	Bridge Approaches Paving	\$1,477,000 Lump Sum	Prime 1982
IL Dept. of Trans. Dist 8 Fairview Hgts, IL	Ferguson Ave. Over- pass, Wood River IL, Struct Steel, Struct Concrete, Dirt Work	\$2,300,000 Lump Sum	Prime 1982
IL Dept. of Trans. Dist 8 Fairview Hgts, IL	Ferguson Ave. Access Rd. Wood River, IL Paving, Dirt Work Storm Sewer	\$1,500,000 Lump Sum	Prime 1982
IL Dept. of Trans. Dist 8 Fairview Hgts, IL	Rt 255 Overpass Centreville, IL Dirt Work	\$600,000 Lump Sum	Sub
IL Dept. of Trans. Dist 8 Div. of Water Resources Springfield, IL	Stormwater Drainage Wood River, IL Dirt Work, Piping Pump House	\$3,364,000 Lump Sum	Prime 1982

WGK 1484120

ST. LOUIS CONSTRUCTION:

TRIAD CONSTRUCTION INC. A SUBSIDIARY OF HELMKAMP CONSTRUCTION CO.
11843 MISSOURI BOTTOM RD. • P.O. BOX 545, HAZELWOOD, MO. 63042 • (314) 731-4171





510 ALTON-ST. LOUIS ROAD
WOOD RIVER, ILLINOIS 62095
PHONE 618/251-2600

MAJOR PROJECTS IN LAST FOUR YEARS (CONT'D)

<u>CLIENT</u>	<u>TYPE OF WORK</u>	<u>CONTRACT AMT.</u> <u>CONTRACT TYPE</u>	<u>PRIME/SUB</u> <u>DATE</u> <u>COMPLETED</u>
Granite City Steel Granite City, IL	Wastewater Treat- ment Plant Struct- ural Concrete, Dirt Work, Piping	\$2,500,000 Lump Sum	Prime 1982
Shell Oil Company Wood River, IL	Precursor Unit Revamp Sewer Excavation & Backfill, Concrete Foundations & Trenches Mill- wright Work	\$670,000	Sub 1982
Monsanto Co. Sauget, IL	Lot A Expansion Mass Fill, Paving	\$805,000	Prime 1983
Lockhaven Development Corp., Alton, IL	Pro Shop Replace- ment; Light Commer- cial Building	\$200,000 Lump Sum	Prime 1983
Illinois Power Co. Baldwin, IL	Wastewater Holding Pond & Pump Struct	\$390,000 Unit Price	Prime 1983
Monsanto Co. Sauget, IL	ACL Foreman's Office, Light Commercial Bldg.	\$190,000 Lump Sum	Prime 1983
Edwin Cooper, Div. Ethyl Corp. Sauget, IL	Unit 268 Work Sewers, Concrete & Steel Pipe Supports	\$130,000 Lump Sum	Prime 1984
Illinois-American Water Company E. St. Louis, IL	Tunnel Improve Debris Removal C.I. Pipe Repair Pressure Grouting	\$560,000	Prime 1984
Shell Oil Co. Wood River, IL	DU-2 Bldg. Switch House Add. Industrial Office Complex	\$1,200,000	Prime 9/84

ST. LOUIS CONSTRUCTION:

TRIAD CONSTRUCTION INC. A SUBSIDIARY OF HELMKAMP CONSTRUCTION CO.
11843 MISSOURI BOTTOM RD. • P.O. BOX 545, HAZELWOOD, MO. 63042 • (314) 731-4171

WGK 1484121





510 ALTON-ST. LOUIS ROAD
WOOD RIVER, ILLINOIS 62095
PHONE 618/251-2600

MAJOR PROJECTS IN LAST FOUR YEARS (CONT'D)

<u>CLIENT</u>	<u>TYPE OF WORK</u>	<u>CONTRACT AMT.</u> <u>CONTRACT TYPE</u>	<u>PRIME/SUB</u> <u>DATE</u> <u>COMPLETED</u>
Olin Corp. E. Alton, IL	Site Preparation Bldg. - W70	\$180,000	Prime 3/1/85
Shell Oil Co. Wood River, IL	Water Separator Box Industrial/Civil Work	\$696,000	Prime 7/1/84
Village of Sauget Sauget, IL	Millwright Work for Zimpro Wet Air Regeneration	\$135,000 Lump Sum	Sub 3/1/85
Shell Oil Co. Wood River, IL	Acid Handling Plant Industrial/Civil Work	\$200,000 Cost Plus Fee	Prime 1/1/85
City, E. St. Louis E. St. Louis, IL	Lincoln Pool Rehab.	\$650,000	Prime 9/1/85
Shell Oil Co. Nooter Wood River, IL	Du-1 and BF-1 Unit Industrial Complexes	\$1,500,000	Sub 4/1/86
Shell Oil Co. Strange & Coleman Wood River, IL	CCU-1, CCU-2 Sub Station 18 Industrial Complexes	\$1,200,000	Sub 4/1/86
Fiataillis North America Springfield, IL	Machine Tool Dismantling & Packaging for Export	\$350,000 T/M	Prime 11/85
Monsanto Co. Krummrich Plant Sauget, IL	Repl. Sewer Boxes 22 & 221	\$196,000 Lump Sum	Prime 1985

WGK 1484122

ST. LOUIS CONSTRUCTION:

TRIAD CONSTRUCTION INC. A SUBSIDIARY OF HELMKAMP CONSTRUCTION CO.
11843 MISSOURI BOTTOM RD. • P.O. BOX 545, HAZELWOOD, MO. 63042 • (314) 731-4171





FIREMAN'S FUND INSURANCE COMPANY
THE AMERICAN INSURANCE COMPANY
NATIONAL SURETY CORPORATION
ASSOCIATED INDEMNITY CORPORATION
AMERICAN AUTOMOBILE INSURANCE COMPANY

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, HELMKAMP CONSTRUCTION COMPANY

as Principal, hereinafter called the Principal, and

NATIONAL SURETY CORPORATION

a corporation duly organized under the laws of the State of IL

as Surety, hereinafter called the Surety, are held and firmly bound unto

VILLAGE OF SAUGET, IL

as Oblige, hereinafter called the Oblige, in the sum of

Dollars (\$

5% OF BID

FIVE PERCENT OF BID

for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for

VILLAGE OF SAUGET, MOBILE STREET AND
MONSANTO AVE. SEWER IMPROVEMENTS

NOW, THEREFORE, if the Oblige shall accept the bid of the Principal and the Principal shall enter into a contract with the Oblige in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or contract documents with good and sufficient surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such contract and give such bond or bonds, if the Principal shall pay to the Oblige the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Oblige may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

1ST

JULY

86

Signed and sealed this

day of

A.D. 19

WGK 1484123

HELMKAMP CONSTRUCTION COMPANY

(Principal)

(Seal)

COUNTERSIGNED: IL RESIDENT AGENT

John G. Helmkamp
(Title)
John G. Helmkamp, Exec. Vice Pres.

NATIONAL SURETY CORPORATION

(Surety)

(Seal)

Pamela A. Beelman
PAMELA A. BEELMAN Attorney in fact

STATE OF MISSOURI

COUNTY OF ST. LOUIS

On this 1ST day of JULY, 19 86, before me
PATRICIA DUCHEK

_____, a Notary Public in and for the said

County of ST. LOUIS State of MISSOURI,

residing therein, duly commissioned and sworn, personally appeared
PAMELA A. BEELMAN

_____ known to me to be the Attorney in

Fact of the NATIONAL SURETY CORPORATION, the Corporation

that executed the within instrument.

PATRICIA DUCHEK
NOTARY PUBLIC - STATE OF MISSOURI
ST. LOUIS COUNTY
MY COMMISSION EXPIRES OCT. 31, 1989


Notary Public in and for the County
of St. Louis State of Missouri

WGK 1484124

NATIONAL SURETY CORPORATION

KNOW ALL MEN BY THESE PRESENTS: That NATIONAL SURETY CORPORATION, a Corporation duly organized and existing under the laws of the State of Illinois, and having its Home Office in the City of Chicago, Illinois, has made, constituted and appointed, and does by these presents make, constitute and appoint

PAMELA A. BEELMAN AND TIMOTHY J. DANFS
jointly or severally

its true and lawful Attorney(s)-in-Fact, with full power and authority hereby conferred in its name, place and stead, to execute, seal, acknowledge and deliver any and all bonds, undertakings, recognizances or other written obligations in the nature thereof

and to bind the Corporation thereby as fully and to the same extent as if such bonds were signed by the President, sealed with the corporate seal of the Corporation and duly attested by its Secretary, hereby ratifying and confirming all that the said Attorney(s)-in-Fact may do in the premises.

This power of attorney is granted pursuant to Article VIII, Section 29 and 30 of By-laws of NATIONAL SURETY CORPORATION now in full force and effect.

"Article VIII, Appointment and Authority Assistant secretaries, and Attorney-in-Fact and Agents to accept Legal Process and Make Appearances.

Section 29, Appointment. The Chairman of the Board of Directors, the President, any Vice-President or any other person authorized by the Board of Directors, the Chairman of the Board of Directors, the President or any Vice-President, may, from time to time, appoint Resident Assistant Secretaries and Attorneys-in-Fact to represent and act for and on behalf of the Corporation and Agents to accept legal process and make appearances for and on behalf of the Corporation.

Section 30, Authority. The Authority of such Resident Assistant Secretaries, Attorneys-in-Fact, and Agents shall be as prescribed in the instrument evidencing their appointment, and any such appointment and all authority granted thereby may be revoked at any time by the Board of Directors or by any person empowered to make such appointment."

This power of attorney is signed and sealed under and by the authority of the following Resolution adopted by the Board of Directors of NATIONAL SURETY CORPORATION at a meeting duly called and held on the 7th day of September, 1972, and said Resolution has not been amended or repealed:

"RESOLVED, that the signature of any Vice-President, Assistant Secretary, and Resident Assistant Secretary of this Corporation, and the seal of this Corporation may be affixed or printed on any power of attorney, on any revocation of any power of attorney, or on any certificate relating thereto, by facsimile, and any power of attorney, any revocation of any power of attorney, or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Corporation.

IN WITNESS WHEREOF, NATIONAL SURETY CORPORATION has caused these presents to be signed by its Vice-President,

and its corporate seal to be hereunto affixed this 2nd day of December, 19 85



STATE OF CALIFORNIA
COUNTY OF MARIN

NATIONAL SURETY CORPORATION

By Richard Williams
Vice President

On this 2nd day of December, 19 85, before me personally came Richard Williams to me known, who, being by me duly sworn, did depose and say: that he is Vice-President of NATIONAL SURETY CORPORATION, the Corporation described in and which executed the above instrument; that he knows the seal of said Corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said Corporation and that he signed his name thereto by like order.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year herein first above written



STATE OF CALIFORNIA
COUNTY OF MARIN

CERTIFICATE

Susie K. Gilbert
Notary Public

WGK 1484125

I, the undersigned, Resident Assistant Secretary of NATIONAL SURETY CORPORATION, an ILLINOIS Corporation, DO HEREBY CERTIFY that the foregoing and attached POWER OF ATTORNEY remains in full force and has not been revoked; and furthermore that Article VIII, Sections 29 and 30 of the By-laws of the Corporation, and the Resolution of the Board of Directors, set forth in the Power of Attorney, are now in force.

Signed and sealed at the County of Marin. Dated the 1ST day of JULY, 19 86.



Leatha E. Anstey
Resident Assistant Secretary

BID TABULATION

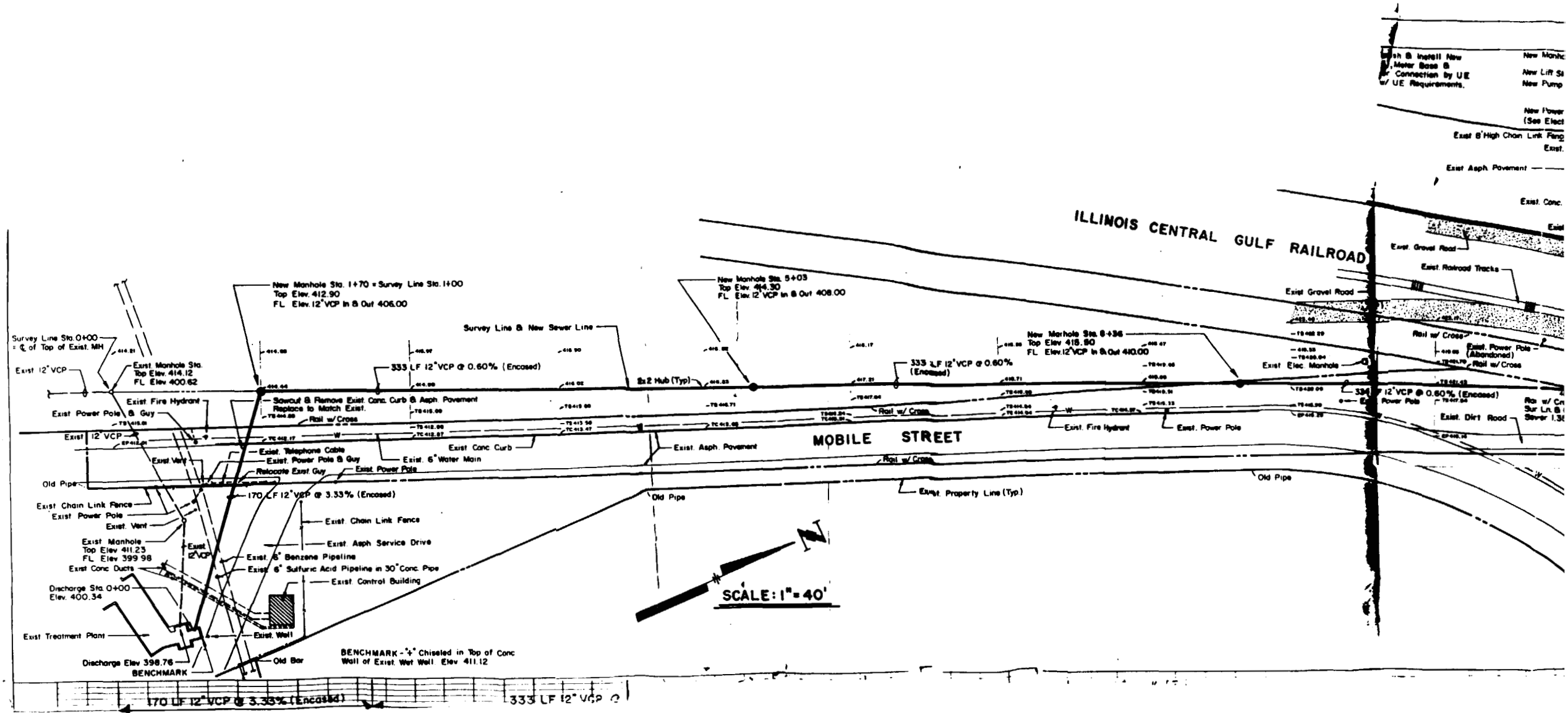
PH. WEIS & ASSOCIATES
ENGINEERS / ARCHITECTS / PLANNERS

MOBILE ST. & MONSANTO AVE. SEWER IMPROVEMENTS
VILLAGE OF SAUGET, ILLINOIS

JULY 1, 1985

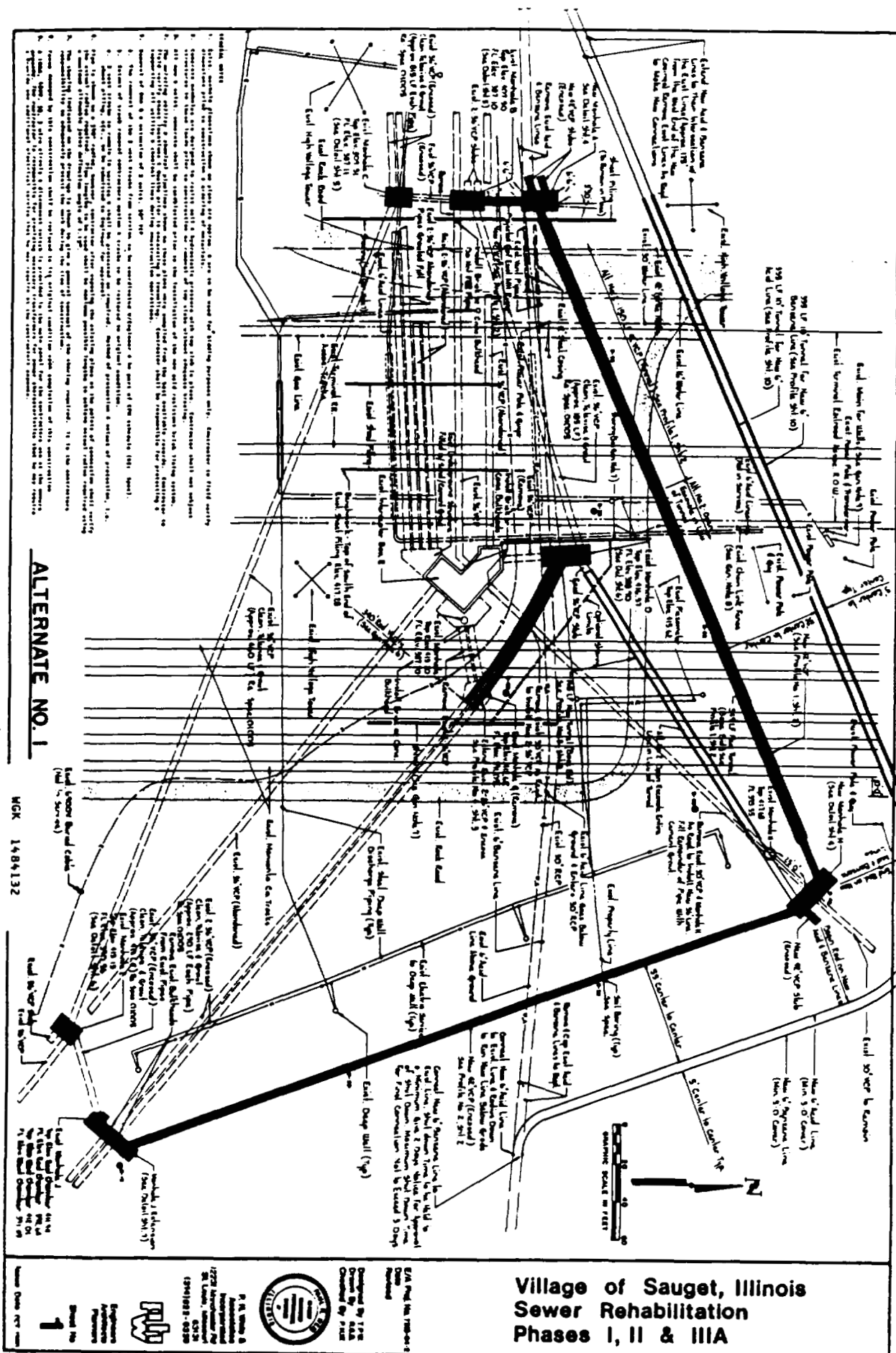
	<i>Helmkamp Construction Co.</i>	<i>Healey Bro. Const. Co.</i>				
BID BOND	5%	5%				
BASE BID	915,000.00	1,175,000.00				
ALT. NO. I	-21,000.00	-23,360.00				
ADDENDUMS NOTED	1 + 2	1 + 2				

MCK 1484126









VILLAGE OF SAUGET
SANITARY DEVELOPMENT AND RESEARCH ASSOCIATION
10 MOBILE STREET
SAUGET, ILLINOIS 62201

in calendar
B/U 1/17

FROM: Bill DeFer

DATE: January 7, 1986

SUBJECT: Village Sewer Rehabilitation, Phases I, II, IIIa

TO:	J. Bagarinao	P. Sauget
	H. Baker	W. Smull
	S. McWilliams	P. Tandler
	J. Molloy	P. Weis
	S. Mueller	T. Weis

Please plan to attend a meeting on Friday January 17th at 1:00 p.m. at the Sauget Village Hall concerning the Sewer Rehabilitation Project.

The Village Engineer has received the project bids, however they are significantly higher than expected. The project bids will be reviewed at this meeting, as well as possible changes in funding and scope of the work.

W. L. DeFer
W. L. DeFer *BA*
Treasurer

WGK 1484133

SAUGET SEWER REHABILITATION PHASE I, II, IIIA

BID EVALUATION

Based on the Scope of Work as outlined in the Facilities Plan and Infiltration - Inflow Analysis, the plans and specifications were prepared and bids were received in the office of the City Clerk on December 19, 1985. A copy of the bid tabulation sheet is attached. The bid tabulation sheet shows that with the exception of Tarlton the bids received are tightly grouped within 11% of each other, indicating an understanding of the work specified.

In an effort to reduce unknowns and risk so the contractor may submit better bids, the plans and specifications were produced thoroughly and clarified by addenda. A Pre-bid Conference was held to entertain questions which yielded a better understanding of the plans and specifications. The contractors that we received bids from were qualified contractors, having experience in this type work.

The funds available for this project (\$4.22 million) were based on estimates from the Facilities Plan and Infiltration - Inflow Analysis (Feb 1984). The bids received were approximately \$1.1 million over budget. Several items were added to the scope of the work after the budget was established:

- 1) The relocation of both an acid and a benzene line added approximately \$245,000.
- 2) The addition of a furan membrane to the boxes for acid resistivity added approximately \$200,000.

Other items that indirectly added to the cost was a bad experience factor for projects in the Village with contractors bidding the work along with the high risk that this acid proof construction carries because of tolerances and precautions.

The criteria used for design was established by the Facilities Plan and Infiltration - Inflow Analysis, which was done in association with various engineering personnel for the Industries. The basis was to establish three active reliable lines beneath the railroad tracks connecting the plants to the treatment facility. The ability to divert this flow from the north lines to the south lines was deemed necessary. This would allow for ample capacity during the repair of one sewer line or a manhole.

Because the bid price has exceeded our budgeted amount we have investigated many alternates to the optimum design. In order to reduce costs we must either change the method or reduce the amount of work to be done. The methods of constructing the manholes and the pipes were reviewed and it was determined that we are left with little choice in dealing with acid proof construction. The pipe joints have been tested several ways with

the optimum being a full furan ceramic fiber reinforced mortar joint. The manholes utilizing acid brick and furan brick mortar have been standardized in the acid sewer industry. We must therefore reduce the amount of work to be done by either utilizing alternate methods of a system layout, which would constitute redesign and sacrificing options in the future or to eliminate work from the current design that is not critical at the present time but may be set up to accept future work.

Two alternate methods (attached) have evolved from investigation to satisfy the above criteria. They are not as desirable as the design as set forth in the bid package but an acceptable compromise. Both Alternate 1 (\$4.6 million) and Alternate 2 (\$4.2 million) estimates are based on actual unit prices received times a factor of 1.44 (contractor price/PHW estimate). Although Alternate 1 is more costly, it allows the possible option of making a change order of 11% to the bid price. The legality of making a change order of this magnitude should be investigated by the Village Attorney. Minor engineering changes are required. Alternate 2 is estimated closest to the budget but has some uncertainty that when rebid an add of approximately \$200,000 may be seen due to the add for open excavation by four contractors to the current bids. Open excavation of the 36" VCP seems to be the solution in Alternate 2. The engineering design changes would amount to approximately \$50,000.

Investigation is underway as to where and how government funding can be received with the possibility of using the existing design.

January 17, 1986

AGENDA
REVIEW VILLAGE OF SAUGET SEWER REHABILITATION PROJECT
PHASES I, II, AND IIIa - JANUARY 17, 1986

I. Review Original Project Objectives

II. Project as Designed - Phases I, II, and IIIa

- A. Scope of Work
- B. Advantages/Disadvantages
- C. Bids, Engineer's Estimate, Unit Price Estimate

III. Alternate 1 - I, II, and part of IIIa

- A. Scope of Work
- B. Advantages/Disadvantages
- C. Cost Estimate

IV. Alternate 2 - IIIa and Modified II

- A. Scope of Work
- B. Advantages/Disadvantages
- C. Cost Estimate

V. Form of Job Award

- A. Options - Existing Bids
- B. Rebid

VI. Grant Assistance

Agreement

1. Rescope per Aite 1

2. Delete Clean, TV, Grout,

3. Rebid

a Lamp Sam

4. Tand M not to exceed

Savings 50,000

WGK 1484136



Village Sewers

510 ALTON—ST. LOUIS ROAD
WOOD RIVER, ILLINOIS 62095
PHONE 618/251-2600

December 20, 1985

Paul Sauget, Mayor
Village of Sauget
2297 Fallings Springs Rd.
Sauget, IL 62206

Reference: Sewer Rehabilitation
Phases I, II, IIIA

Gentlemen:

As you are aware, we did not submit pricing information for Alternate 3 and 4 on the above referenced project. This letter will serve to explain our position and reasoning for such action.

Alternate No. 3 to the base bid, requested a price modification to "utilize a precast furan concrete bullring to protect the connection between the pipe and the manhole in lieu of an acid brick bullring." We requested, and received several quotations from contractors qualified to install the acid brick system, none of whom quoted this alternate as specified. One contractor offered a deduct to install a cast-in-place furalec concrete bullring and when questioned about the deviation (cast-in-place vs precast) replied that it was impossible to achieve a tight and usable joint from the acid brick to the bullring and the bullring to the pipe using precast components. In our opinion, this suggested an unacceptable method of construction. Additionally, the cast-in-place method did not meet the alternate description, thereby leaving us with no option other than not to bid Alternate 3.

Alternate No. 4 requested a price and time differential from the base bid "for utilizing a large enough tunnel in both 349' of 42" VCP and 165' of 36" VCP to construct the entire joint in the tunnel with full furan tamping mix."

Our base bid is predicated on installing both the 36" and 42" VCP in a tunnel with a 96" inside diameter. It is our position that the tamped joint could effectively be installed within this tunnel if necessary. It is also our opinion that the sewer pipe could be more efficiently constructed by open-cut methods of construction in lieu of tunnelling, as may be evidenced by our deduct for Alternate No. 2.



WGK 1484137

Village of Sauget
December 20, 1985
Page 2

We welcome the opportunity to discuss this project to insure you the best quality construction at the lowest contract price. If you have any questions or if additional information is required, please feel free to contact our office.

We trust our proposal will meet with your favorable approval and look forward to working with you in the near future.

Sincerely,

HELMKAMP CONSTRUCTION CO.


Gregory S. Lilley
Chief Estimator

CC: P.H. Weis
P.R. Weis & Associates

WGK 1484138

Village Engineers

SAUGET SEWER REHABILITATION PHASES I, II, IIIA
COST REDUCTION SYNOPSIS

In order to reduce costs we must either change the method or reduce the amount of work to be done. The methods of constructing the manholes and the pipes were reviewed and it was determined that we are left with little choice in dealing with acid proof construction. The pipe joints have been tested several ways with the optimum being a full furan ceramic fiber reinforced mortar joint. The manholes utilizing acid brick and furan brick mortar have been standardized in the acid sewer industry.

We must therefore reduce the amount of work to be done by either utilizing alternate methods of a system layout, which would constitute redesign and sacrificing options in the future or to eliminate work from the current design that is not critical at the present time but may be set up to accept future work. The design that was bid was done in conjunction with the industries in the area. A certain part of this design (Phase IIIA) may be eliminated from the present job to reduce cost without affecting the operation of the system.

Phase IIIA consists of installing a 36" VCP pipe to be tunnelled and repair and extend Manhole D to accept the twin 36" VCP from Manhole J through demolished Manhole G. By eliminating this part of the work we have decreased the capacity out of Manhole H and Manhole J but we still have the same number of lines leaving each manhole as we have entering each manhole. In a sense we have created a bulge (excess of capacity) in the center of the system but the influent still remains at 3-36" VCP's, 1-30" VCP and the effluent at 3-36" VCP's for the system.

In order for Phase IIIA to show it's true effectiveness in the first place the 36" VCP from Manhole D to B must be in good condition and that is an unknown at this point in time. A priority to Phase IIIA would then be Manhole D to Manhole B which may involve costly repairs or abandonment.

Phase IIIA does however allow us to abandon the settlement problem that we are encountering near the T.R.R.A. Box while giving us a third line beneath the tracks to carry capacity through that area provided that the 36" VCP from Manhole D to Manhole B is in service. Therefore, Phase IIIA should still be a consideration if more money can be allocated.

By eliminating the work done in Phase IIIA the system will be operating with a new 42" VCP (Manhole A to Manhole H), an existing 36" VCP said to be in good shape (Manhole I to Manhole C), a 36" VCP in questionable shape (Manhole D to Manhole B), and a 36" VCP with known settlement (Manhole E to Manhole B) to carry the influent (Manhole H, I, J) to the effluent (Manhole A, B, C) of the system until the T.R.R.A. Box can be eliminated with Phase IIIA.

The following estimations of the work to be eliminated are broken into two parts to show the savings to be gained by eliminating part of Phase IIIA and all of Phase IIIA. The estimations have been done by two methods to present a range. The first method was done utilizing actual bid unit prices which may not reflect all of the work involved in a contractor's price while the latter is a ratio of the contractor's bid price to the engineer's original estimate.

WGK 1484140

ELIMINATE PART OF PHASE IIIA
(HELMKAMP PRICES)

Removal of Box G	\$ 15,000
Extension of Box D	
Concrete (27.86 cu.yds. @ \$200.00/cu.yd.)	5,572
Forms (340 sq.ft. @ \$12.50/sq.ft.)	10,500
Reinf. (5,300 lbs. @ \$1.00/lb.)	5,300
Acid Brick & Membranes (360 sq. ft. @ \$80.00/sq.ft.)	28,800
Exterior Membrane (270 sq.ft. @ \$20.00/sq.ft.)	5,400
Volclay Panels (160 sq.ft. @ \$5.00/sq.ft.)	800
Fiberglass Panels (120 sq.ft. @ \$20.00/sq.ft.)	2,400
Removal of Existing Wall	10,000
Crushed Stone Base	1,000
Earthwork (4,700 cu.yds. @ \$15.00/cu.yd.)	70,500
New 36" VCP (172 LF @ \$400/LF)	68,800
Sheet Piling (2,500 sq.ft. @ \$30/sq.ft.)	75,000
Track Removal & Replacement (300 LF @ \$85.00/LF)	25,500
Clean, Televis & Grout 2 - 36" VCP	
Cleaning & Televising (580 LF @ \$76.50/LF)	44,370
Grouting & Testing (1933 gal. @ \$11.00/gal.)	21,300
Remove Existing 30" VCP (30 LF @ \$250.00/LF)	7,500
Remove Existing 36" VCP (100 LF @ \$300.00/LF)	30,000
Install Bulkheads	5,000
Grout Existing 30" VCP (125 LF @ \$40.00/LF)	<u>5,000</u>
Estimated Deduction	\$ 437,742

WGK 1484141

ELIMINATE ALL OF PHASE IIIA
(HELMKAMP PRICES)

Removal of Box G	\$ 15,000
Repair & Extension of Box D	
Concrete (31 cu.yds. @ \$200.00/cu.yd.)	6,200
Forms (904 sq.ft. @ \$12.50/sq.ft.)	11,300
Reinf. (5,800 lbs. @ \$1.00/lb.)	5,800
Acid Brick & Membranes (656 sq.ft. @ \$30.00/sq.ft.)	52,480
Exterior Membrane (495 sq.ft. @ \$20.00/sq.ft.)	9,900
Volclay Panels (160 sq.ft. @ \$5.00/sq.ft.)	800
Fiberglass Panels (176 sq.ft. @ \$20.00/sq.ft.)	3,520
Removal of Wall & Top Slab	15,000
Crushed Stone Base	1,000
Patching Walls (13 batches @ \$250.00/batch)	3,250
Bow Existing Walls & Floor	5,000
Riser & Collar	3,500
Top Slab on Riser	1,000
Earthwork (4,700 cu.yds. @ \$15.00/cu.yd.)	70,500
Trench Excav. 36" VCP (200 LF @ \$250.00/LF)	50,000
New 36" VCP (372 LF @ \$400.00/LF)	148,800
Sheet Piling (4,500 sq.ft. @ \$30.00/sq.ft.)	135,000
Track Removal & Replacement (500 LF @ \$85.00/LF)	42,500
Clean, Televis & Grout 2 - 36" VCP	
Cleaning & Televising (580 LF @ \$76.50/LF)	44,370
Grouting & Testing (1,933 gal. @ \$11.00/gal.)	21,300
Remove Existing 30" VCP (100 LF @ \$250.00/LF)	25,000
Remove Existing 36" VCP (100 LF @ \$300.00/LF)	30,000
Install Bulkheads	5,000
Grout Existing 30" VCP (125 LF @ \$40.00/LF)	5,000
Removal of Manhole H	5,000
By-Pass Pumping	30,000
Open Excavate in Lieu of Tunnel (36")	<u>25,000</u>
Estimated Deduction	\$ 771,220

WGK 1484142

ELIMINATE PART OF PHASE IIIA
(P. H. WEIS & ASSOC. REPORT)

Removal of Box G	\$ 10,000
Extension of Box D	140,000
Installation of 2 - 36" VCP	143,000
Abandon 36" Lines	5,000
Clean, Televiser & Grout 2 - 36" Lines	<u>30,000</u>
	328,000
	<u>x 1.57**</u>
Estimated Deduction	\$ 515,000
New Base Bid Price	\$ 4,815,000

** $\frac{\text{Helmkamp Price}}{\text{PHW Estimate}} = \frac{\$ 5,330,000}{\$ 3,400,000} = 1.57$

WGK 1484143

ELIMINATE ALL OF PHASE IIIA
(P. H. WEIS & ASSOC. REPORT)

Tunnel 36" Line Under Tracks	\$ 224,000
Elimination of Manhole H & Connect to Box H	39,000
Elimination of Box G	10,000
Repair & Extend Box D	240,000
Install 2 - 36" Lines	143,000
Abandon 36" Lines	5,000
Clean, Televis & Grout 2 - 36" Lines	<u>30,000</u>
	691,000
	<u>x 1.57 **</u>
Estimated Deduction	\$ 1,084,870
New Base Bid Price	\$ 4,245,130

$$** \frac{\text{Helmkamp Price}}{\text{PHW Estimate}} = \frac{\$ 5,330,000}{\$ 3,400,000} = 1.57$$

WGK 1484144

**SEWER RENOVATION CONTRACT
Decision Paper**

1. **INTRODUCTION.** Contract documents for the renovation of the trunk sewer system were prepared by P.H. Weis & Assoc. and the contract was bid in December, 1985. The low bid was 57% higher than the engineer's estimate. A problem now exists in that the total bond funding is only \$7.5 million and the work expected to be constructed from these funds, of which this project is a part, may cost \$10 million. Two major decisions need to be made in order to resolve this problem. They are:

What is to be constructed?

What type of contract is to be negotiated?

2. **FACTS.**

a. Engineer's estimate:	\$3,400,000
b. Other bids: Helmkamp	\$5,330,000
McCarthy	\$5,627,020
Keeley Bros	\$5,665,000
J.S. Alberici	\$5,998,500
Tarlton	\$7,152,000

3. **ALTERNATIVE CONSTRUCTION APPROACHES.**

a. Award as designed and bid. Est. \$5,330,000

1. **Advantages:**

Already designed and bid. Known cost unless unforeseen circumstances are discovered in construction. Good cross connection system.

2. **Disadvantages:**

U.E. right-of-way conflicts with box A. Relies on one central box, H. Adds two new boxes to system. Extends two boxes, (potential differential settlement problem). Must drive pile under high voltage wires. Requires R.R. track outage. Requires relocation of benzene line.

b. Eliminate part of Phase IIIA, (double 36"). Est. \$4,892,258

1. **Advantages:**

Can modify current contract with unit price deductions. Known cost unless unforeseen circumstances are discovered in construction. Good cross connection system. Does not require R.R. track outage.

2. **Disadvantages:**

U.E. right-of-way conflicts with box A. Relies on one central box, H. Adds two new boxes to system. Extends one box. Must drive pile under high voltage wires.

c. Eliminate all of Phase IIIA. Est. \$4,558,780

1. **Advantages:**

Can modify current contract with unit price deductions. Known cost unless unforeseen circumstances are discovered in construction. Good cross connection system. Does not require R.R. track outage.

2. **Disadvantages:**

U.E. right-of-way conflicts with box A. Relies on one central box, H. Adds two new boxes to system. Extends one box. Must drive pile under high voltage wires.

d. Eliminate Phase I and II pipe. Est. \$4,353,000

WGK 1484145

1. **Advantages:**

Can modify current contract with unit price deductions. Known cost

unless unforeseen circumstances are discovered in construction. Defers second pipe toward Rt. 3 until later phase when actually beneficial. Reduces number of boxes by one. No pile driving under wires.

2. Disadvantages:

Requires movement of benzene lines. Provides no H-D bypass. Relies on one central box. Requires extensive bypass pumping. Limits pipes under tracks to two. Requires R.R. track outage.

e. Redesign Alternate #3. Est. \$3,861,154

1. Advantages:

Adds fourth pipe under tracks. Requires no pile driving under high voltage wires.

2. Disadvantages:

Adds one box to system. Relies on use of old, double 36" pipe or adds \$322,000 to cost to replace them. Realize no benefit from 42" pipe going to Rt. 3 from manhole D until connection in later phase; could defer construction until then delaying \$170,000 expense. Relies on one central box, E. Costs may increase if unforeseen circumstances are discovered. Must be redesigned and rebid or contracted on time and materials basis. Requires extensive R.R. track outage. Extends one box.

f. Redesign Alternate #4. Est. \$4,487,854

1. Advantages:

Provides wide dispersion of flow routes. Provides double cross connection H-G & D-E. Does not rely on one central box. No boxes are extended.

2. Disadvantages:

Adds two boxes to system. Costs may increase if unforeseen circumstances are discovered. Must be redesigned and rebid or contracted on time and materials basis. Requires extensive R.R. track outage. Requires pile driving under high voltage lines.

g. Redesign Alternate #5. Est. \$3,982,730

1. Advantages:

Reduces number of boxes in system by one. Extends no boxes. Requires no sheet pile under high voltage lines.

2. Disadvantages:

Relies on one central box. Costs may increase if unforeseen circumstances are discovered. Cannot tunnel H-D. Must be redesigned and rebid or contracted on time and materials basis. Requires extensive R.R. track outage.

h. Point Repairs, TV & Grout. Est. \$2,130,931

1. Advantages:

Owner retains total flexibility. Can do TV & grout first, then have all point repairs identified. Can schedule repairs to match funds. Do no unnecessary work. No bypass pumping. No sheet pile under high voltage lines. Can defer new line toward Rt. 3 until needed. Can quit when funds expended. Cannot overrun budget despite problems encountered. Can add new lines as desired if funds are remaining. Adds no boxes. Functionality of system is proven.

2. Disadvantages:

Uncertain cost. Must do on time and materials basis. Requires close owner supervision. Owner takes all risk. Repair under T.R.R.A. tracks will be difficult. Does not improve system. Relies on one central box.

4. CONTRACT ALTERNATIVES.

WGK 1484146

a. Award as Bid.

1. Advantages:
Fixed cost. Low risk. At this time, will be a minimum of work to execute. Requires minimal management.

2. Disadvantages:
High cost, exceeding money available. Little flexibility. Requires much supervision to assure quality. No incentive for contractor to save owner money.

b. Rebid Lump Sum.

1. Advantages:
Fixed cost. Low risk. Requires minimal management. Can adjust scope of work by redesigning.

2. Disadvantages:
Low probability of savings from rebid. Delays award date. Little flexibility. Requires close supervision to assure quality. No incentive for contractor to save owner money.

c. Negotiate Adjusted Lump Sum.

1. Advantages:
Fixed cost. Low risk. Requires minimal management. Can adjust scope of work by redesigning. Small delay for award date.

2. Disadvantages:
Must reduce scope to reduce price. No incentive for contractor to save owner money. Low flexibility. Requires close supervision to assure quality. High probability of getting less construction for dollars paid.

d. Time and Materials.

1. Advantages:
Flexibility. Control costs. Pay only for work done. Adjust work to meet changing requirements. No incentive to do poor quality work. No delay in award date.

2. Disadvantages:
Requires close supervision or costs soar. No incentive for contractor to save owner money. Requires knowledgeable staff to manage. Must manage own project. Owner assumes all risk.

e. T&M with Ceiling.

1. Advantages:
Flexibility. Control costs. Pay only for work done. Adjust work to meet changing requirements. No incentive to do poor quality work. No delay in award date. Limits risk.

2. Disadvantages:
Requires close supervision or costs soar to the guaranteed maximum. No incentive for contractor to save owner money. Requires knowledgeable staff to manage. Must manage own project. Owner assumes some risk.

f. T&M with Savings Sharing.

1. Advantages:
Flexibility. Control costs. Pay only for work done. Adjust work to meet changing requirements. No incentive to do poor quality work. No delay in award date. Limits risk.

2. Disadvantages:
Requires knowledgeable staff to manage. Must manage own project. Owner assumes some risk.

g. T&M with Award Fee.

1. Advantages:
Flexibility. Control costs. Pay only for work done. Adjust work to meet changing requirements. No delay in award date. Incentive to do

WGK 1484147

good work and keep owner pleased.

2. Disadvantages:

Requires knowledgeable staff to manage. Must manage own project. Owner assumes all risk.

5. RECOMMENDATION.

The most cost effective alternative is to perform point repairs, televise and grout. Almost all of this work is in the current project including the televising and grouting, manhole relining, excavation, small miscellaneous items and overhead. The added work includes the estimated three point repairs where pipe would be replaced, raking and regrouting the joints in existing line E-B, televising and grouting the 30" line from manhole H to box E, replacing the double 36" line between boxes G and E, and relining box G. If after inspecting line E-B it was found to be unservicable, it could be replaced with a parallel line to line D-B. This alternative, however, simply rehabilitates the existing system and does not improve it.

Should system improvement be imperative, redesign alternate #5 is the best value. The one major drawback of this design is the concentration of flows through one, central box. This disadvantage can be minimized by constructing the box so that flows can be diverted in all directions.

The form of contract recommended is time and materials with award fee. This form will allow close control of the work and management of the project while providing an incentive for the contractor not only to help in reducing field costs, but also to assist in the management of the job.

WGK 1484148

P.H. WEIS & ASSOCIATES INC.
ENGINEERS / ARCHITECTS / PLANNERS
PROJECT NO. 7313-84-2

BID TABULATION
VILLAGE OF SAUGET, ILLINOIS
SEWER REHABILITATION
PHASES I, II & IIIA

DECEMBER 19, 1985

	J. S. Alberici Construction Co., Inc.	Keeley Bros. Contracting Company	McCarthy Brothers Company	Tarlton Corporation	Helmkamp Construction Company	
BID BOND	5%	5%	5%	5%	5%	
BASE BID	\$5,998,500.00	\$5,665,000.00	\$5,724,720.00	\$7,152,000.00	\$5,330,000.00	
ALTERNATE NO. 1 - 2' Furan Conc. Slob in Lieu of Furan Fiberglass Reinforced Panels	+60,000.00	+67,500.00	+51,634.00	+100,000.00	+60,000.00	
	+30 days	0 days	0 days	+200 days	0 days	
ALTERNATE NO. 2 - Open Excavate in Lieu of Tunneling	+65,000.00	+225,000.00	+276,345.00	+1,000,000.00	-50,000.00	
	+30 days	+21 days	+30 days	+200 days	+30 days	
ALTERNATE NO. 3 - Furan Conc. Bullrings in Lieu of Arched Brick Bullrings	No Change	+57,000.00	-6,800.00	+70,000.00	No Bid	
	0 days	0 days	0 days	+30 days		
ALTERNATE NO. 4 - Oversize Tunnel to Construct Full Furan Tamping Mix Jt. in Tunnel	+525,000.00	+650,000.00	-90,900.00	+500,000.00	No Bid	
	+60 days	+86 days	-15 days	+100 days		
ADDENDA NOTED	1 Thru 4	1 Thru 4	1 Thru 4	1 Thru 4	1 Thru 4	

97,7~

5,627,020

MCK 1484149

ELIMINATE PART OF PHASE IIIA
(HELMKAMP PRICES)

Removal of Box G	\$ 15,000
Extension of Box D	
Concrete (27.86 cu.yds. @ \$200.00/cu.yd.)	5,572
Forms (840 sq.ft. @ \$12.50/sq.ft.)	10,500
Reinf. (5,300 lbs. @ \$1.00/lb.)	5,300
Acid Brick & Membranes (360 sq. ft. @ \$80.00/sq.ft.)	28,800
Exterior Membrane (270 sq.ft. @ \$20.00/sq.ft.)	5,400
Volclay Panels (160 sq.ft. @ \$5.00/sq.ft.)	800
Fiberglass Panels (120 sq.ft. @ \$20.00/sq.ft.)	2,400
Removal of Existing Wall	10,000
Crushed Stone Base	1,000
Earthwork (4,700 cu.yds. @ \$15.00/cu.yd.)	70,500
New 36" VCP (172 LF @ \$400/LF)	68,800
Sheet Piling (2,500 sq.ft. @ \$30/sq.ft.)	75,000
Track Removal & Replacement (300 LF @ \$85.00/LF)	25,500
Clean, Televise & Grout 2 - 36" VCP	
Cleaning & Televising (580 LF @ \$76.50/LF)	44,370
Grouting & Testing (1933 gal. @ \$11.00/gal.)	21,300
Remove Existing 30" VCP (30 LF @ \$250.00/LF)	7,500
Remove Existing 36" VCP (100 LF @ \$300.00/LF)	30,000
Install Bulkheads	5,000
Grout Existing 30" VCP (125 LF @ \$40.00/LF)	<u>5,000</u>
Estimated Deduction	\$ 437,742

WGK 1484150

ELIMINATE ALL OF PHASE IIIA
(HELMKAMP PRICES)

Removal of Box G	\$ 15,000
Repair & Extension of Box D	
Concrete (31 cu.yds. @ \$200.00/cu.yd.)	6,200
Forms (904 sq.ft. @ \$12.50/sq.ft.)	11,300
Reinf. (5,800 lbs. @ \$1.00/lb.)	5,800
Acid Brick & Membranes (656 sq.ft. @ \$30.00/sq.ft.)	52,480
Exterior Membrane (495 sq.ft. @ \$20.00/sq.ft.)	9,900
Volclay Panels (160 sq.ft. @ \$5.00/sq.ft.)	800
Fiberglass Panels (176 sq.ft. @ \$20.00/sq.ft.)	3,520
Removal of Wall & Top Slab	15,000
Crushed Stone Base	1,000
Patching Walls (13 batches @ \$250.00/batch)	3,250
Bow Existing Walls & Floor	5,000
Riser & Collar	3,500
Top Slab on Riser	1,000
Earthwork (4,700 cu.yds. @ \$15.00/cu.yd.)	70,500
Trench Excav. 36" VCP (200 LF @ \$250.00/LF)	50,000
New 36" VCP (372 LF @ \$400.00/LF)	148,800
Sheet Piling (4,500 sq.ft. @ \$30.00/sq.ft.)	135,000
Track Removal & Replacement (500 LF @ \$85.00/LF)	42,500
Clean, Televis & Grout 2 - 36" VCP	
Cleaning & Televising (580 LF @ \$76.50/LF)	44,370
Grouting & Testing (1,933 gal. @ \$11.00/gal.)	21,300
Remove Existing 30" VCP (100 LF @ \$250.00/LF)	25,000
Remove Existing 36" VCP (100 LF @ \$300.00/LF)	30,000
Install Bulkheads	5,000
Grout Existing 30" VCP (125 LF @ \$40.00/LF)	5,000
Removal of Manhole H	5,000
By-Pass Pumping	30,000
Open Excavate in Lieu of Tunnel (36")	<u>25,000</u>
Estimated Deduction	\$ 771,220

WGK 1484151

ELIMINATE PART OF PHASE IIIA
(P. H. WEIS & ASSOC. REPORT)

Removal of Box G	\$ 10,000
Extension of Box D	140,000
Installation of 2 - 36" VCP	143,000
Abandon 36" Lines	5,000
Clean, Televise & Grout 2 - 36" Lines	<u>30,000</u>
	328,000
	<u>x 1.57**</u>
Estimated Deduction	\$ 515,000
New Base Bid Price	\$ 4,815,000

** $\frac{\text{Helmkamp Price} = \$ 5,330,000}{\text{PHW Estimate} = \$ 3,400,000} = 1.57$

WGK 1484152

ELIMINATE ALL OF PHASE IIIA
(P. H. WEIS & ASSOC. REPORT)

Tunnel 36" Line Under Tracks	\$ 224,000
Elimination of Manhole H & Connect to Box H	39,000
Elimination of Box G	10,000
Repair & Extend Box D	240,000
Install 2 - 36" Lines	143,000
Abandon 36" Lines	5,000
Clean, Televis & Grout 2 - 36" Lines	<u>30,000</u>
	691,000
	<u>x 1.57 **</u>
Estimated Deduction	\$ 1,084,870
New Base Bid Price	\$ 4,245,130

** $\frac{\text{Helmkamp Price}}{\text{PHW Estimate}} = \frac{\$ 5,330,000}{\$ 3,400,000} = 1.57$

WGK 1484153

REDUCED COST ESTIMATES for Sewer Rehab Ph I, II & IIIA

1/5

ASSUMPTIONS

- Costs are based on Low Bidder's unit prices.
- All other work remains the same.
- Some costs are extracted from P.H. WCIS + ASSOC. estimates

ALT. #1

Description: Abandon: Box E and Lines E-B, E-D, E-H and E-G

Install: New box G on double 36", New box E south of old box E, New box H downstream of Manhole H, Lines H-D, H-E, E-G and extend double 36" for future use between E & an extension on box G.

SAVINGS:

eliminate: demolition of box G	\$15,000	PH
Box construction is a wash	0	
Earth work	70,500	PH
42" VCP, 545 LF @ \$500/LF	272,500	
Tunnel, 515 LF @ 1046 (Mc G. T. Co.)	538,690	
Sheet Pile 155' x 30' x \$30	139,500	
Clean & TV @ 76.50 x 180 LF @	13,770	
GROUT, 180 LF x 10.7 gal/LF x \$11	21,156	
Remove 30" VCP	7,500	PH
Relocate Benzene lines: 390' bore x 2 x \$200/LF	156,000	
900' lift x 2 x \$50	90,000	
Trench 112" 155 LF @ 350	54,250	
	ST - 1,348,896	
Increase: 170' of 36" VCP @ \$400/LF	68,000	
trench 36" 170' @ \$250/LF	42,500	
RA Track: (200' x 50 - 240') x \$30/LF	22,800	
Remove Box E	30,000	
	ST + 163,300	
WGK 1484154	NET - 1,185,596	
	CONTRACT COST: 4,144,404	

ALT. #1A

increase: demolish 240' of 36" CE VCP x \$300/LF	72,000	
install 240' of 36" VCP x \$400/LF	96,000	
Trench 120' of 42" x \$350/LF	42,000	
Tunnel 20' @ 2000	40,000	
	COST 4,144,726	
	72,000	

ALT #1B

2/5

eliminate 135' of 36" VCP @ 400

~~- 54,000~~

net - 1,239,596

COST 4,090,404

ALT #2

same as ALT #1 except:

eliminate: 30' of 42" VCP @ 500
155' of 36" VCP @ 400
155' of Trench @ 250/LF
Tracks 50' x 55' x 30
Sheet pile 40' x 30' x 30

15,000

62,000

38,750

7,500

~~36,000~~

159,250

net - 1,344,846

COST 3,985,154

net - 1,022,846

COST 4,307,154

net - 1,398,846

COST 3,931,154

ALT #2A

+ 322,000

ALT #2B

- 54,000

ALT #3

Same as alt #2 Less a box @ 70,000

net - 1,414,846

COST 3,915,154

ALT #3A

+ 322,000

ALT #3B

- 54,000

COST 3,861,154

Eliminate PA I+II Pipe

eliminate:

42" VCP 745' x 500/LF

372,500

Tunnel 350' x 400/LF

140,000

1 Box @ 100,000

100,000

Pile 150' x 30' x 30/LF

135,000

Shorten Benline lines \$100,000

100,000

Trench 370' x 350/LF

~~129,500~~

net - 977,000

COST \$ 4,353,000

WGK 1484155

ALT #4

3/5

eliminate:	demolition of Box G	15,000 PH
	Box construction is a wash	0
	245' 42" VCP @ \$500/LF	122,500
	155' 36" VCP @ \$400/LF	62,000
	slut pile is a wash	0
	Tunnel 465 LF @ \$1046/LF	538,690
	Clean + TV 180 LF @ 76.50	13,770
	Grout 180 LF @ 10.7 gal/LF x \$11/LF	21,186
	remove 30" VCP	7,500 PH
	relocate Benzene Lines	216,000
		<u>- 996,646</u>

Increase:	Remove Box E	30,000
	Trench 42", 270' @ \$350/LF	94,500
	De-water well	30,000
		<u>+ 154,500</u>

net -842,146
cost 7,487,854

ALT #5

eliminate:	MHD & 2 boxes x 100,000	200,000
	60" Tunnel 395' x \$1046/LF	413,170
	42" VCP CE 270' x \$500/LF	145,000
	36" VCP CE 225' x \$400/LF	90,000
	Trench 170' x \$350/LF	59,500
	Pile 150' x 30' x \$30/LF	135,000
	Benzene Lines	216,000
		<u>- 1,358,670</u>

WGK 1484156

Increase:	PR Tracks, 380' x \$30 /LF	+ 11,400
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net -1347,270
cost 3,982,730

PROJECT COST EST
Based on unit prices

4/5

Manholes: Box 'D' extension @	70,000
" J "	50,000
Box H	150,000
Box A	150,000
Reline D: $118,750 - 69,772 = 48,978$	50,000
B	100,000
C	75,000
J	100,000
I	75,000
PIPE: 42" VCP 760' x \$500	380,000
36" VCP 375' x \$400	150,000
Tunnel: 72" 350' @ 995	348,250
60" 165' @ 1046	172,590
Sheet Pile: 370' x 70' x 30/SF	297,000
TV + Grout: 2855' x $(76,50 + 10,7 \times 11)$	554,441
Track Removal:	25,500
Benzene Lines	216,000
Trench: 42" 370' x 350	129,500
210' x 250	52,500
	<hr/>
	3,145,781

WGK 1484157

POINT REPAIRS, TV & GROUT

Assumptions:

Required repairs are indicated by current sinkholes.
Replacement of 30' of VCF will be sufficient at each Bim.
Pipe can otherwise be repaired by raking and regrouting
joints w/ furan tamping mix from inside.
Pipes presently designed for TV & GROUT will
not need additional work.
Boxes presently designed for relining will need
relining.

Description:

TV + GROUT all lines in current contract plus 30"
VCF from manhole H to Box E.
Reline boxes B, C, D, G, J & I
Replace 30' of VCF CE;
West of Box C (double 36")
On line E-B under TRRA tracks and west of AYE
Replace double 36" C-E
Remake joints of line E-B

COST EST:

TV + GROUT 3055' @ 194.20
Reline boxes 70,000 / on C + 400,000
Replace VCF: double unit price 800 x 120'
Trench: 120' x 350 / ft
Replace double 36" : 30' x 2 x 400 / ft
excavations : 5000 cy x 15
Remake joints : 400 - 100 / ft = 300 / ft x 190'

COST \$ 2,130,931.20

Unit Prices x quantities = Eng's est. $\approx 1.57 \therefore$

1357,281

57,000

75,000

24,000

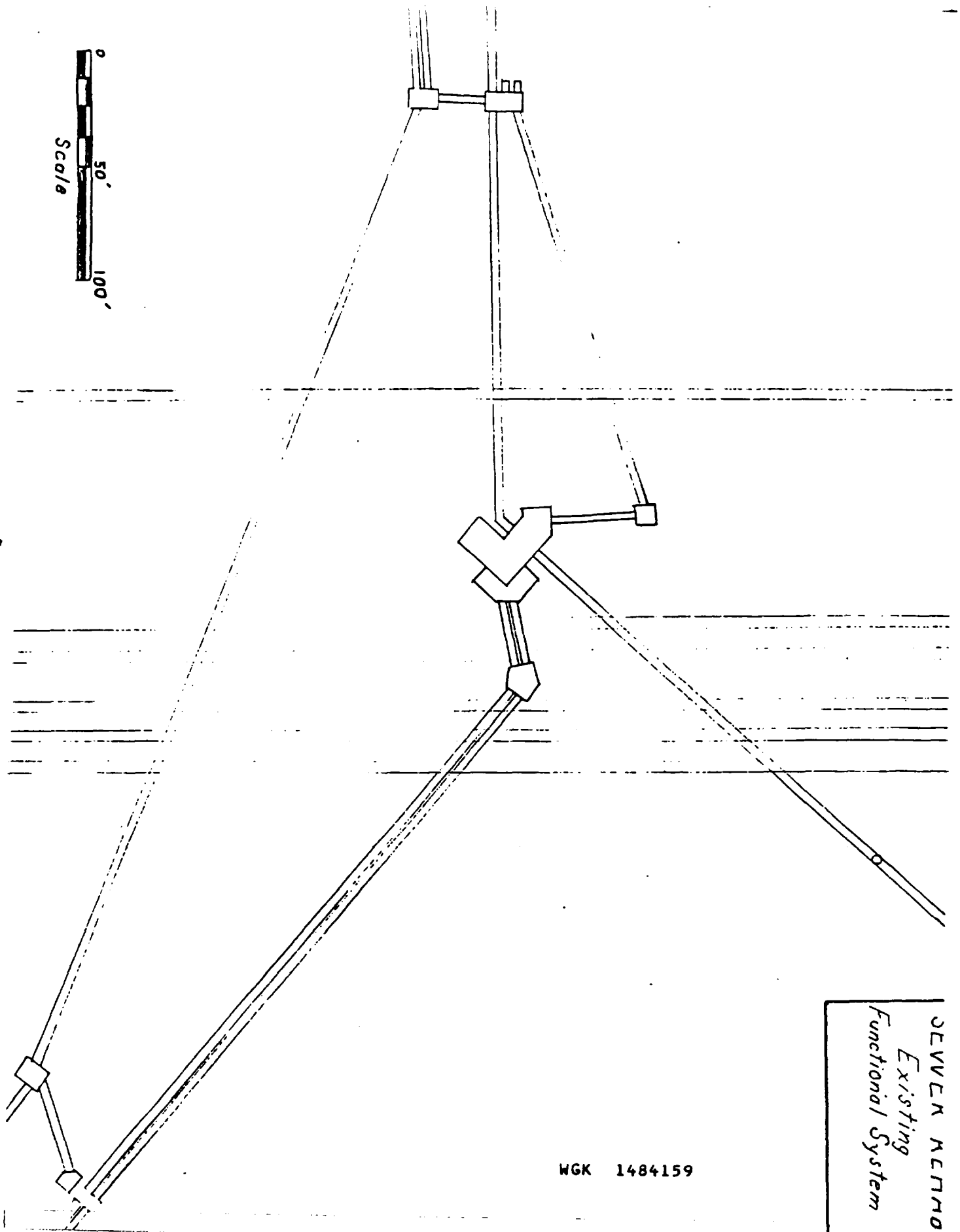
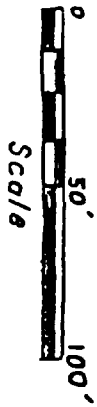
42,000

96,000

479,000

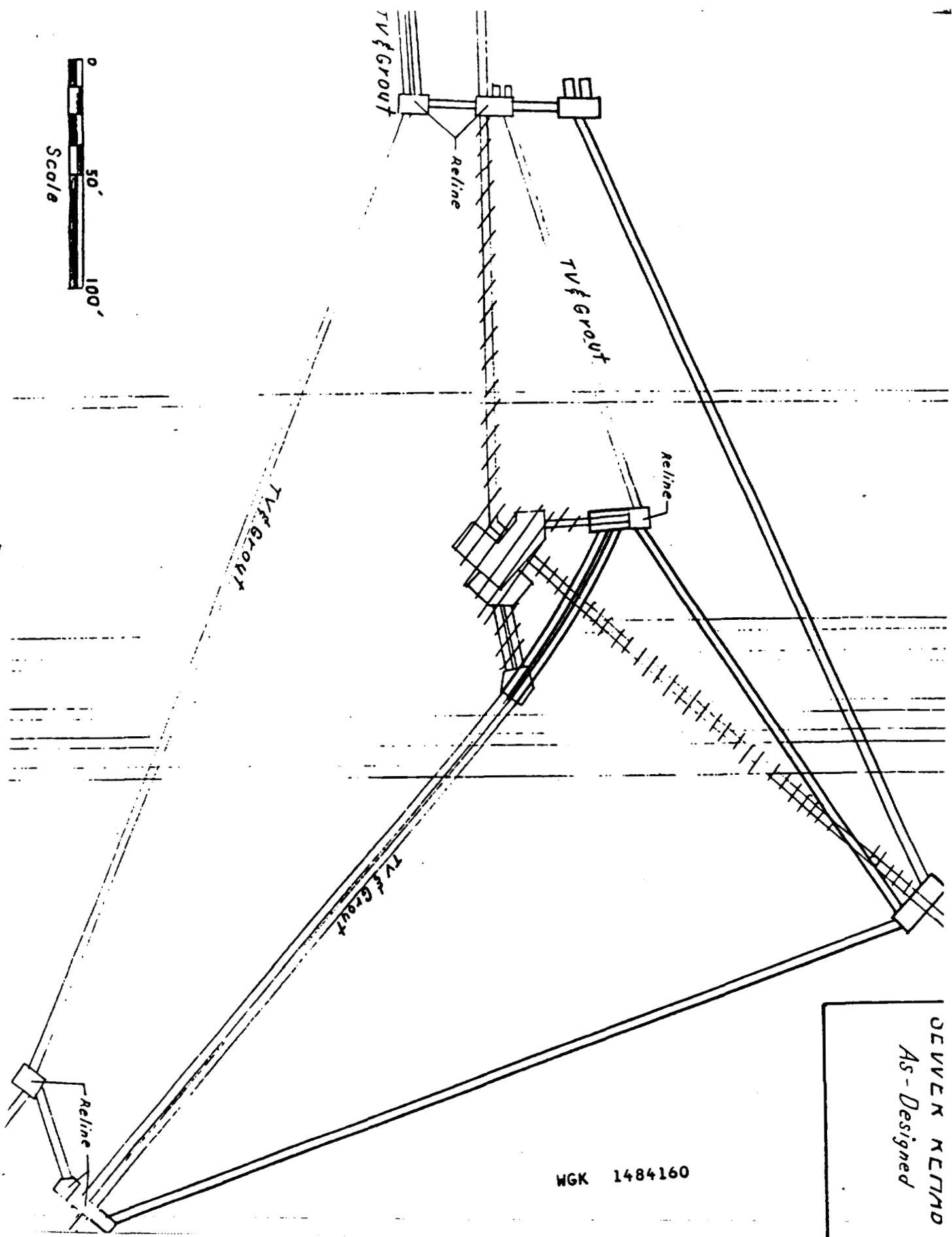
593,281

WGK 1484158



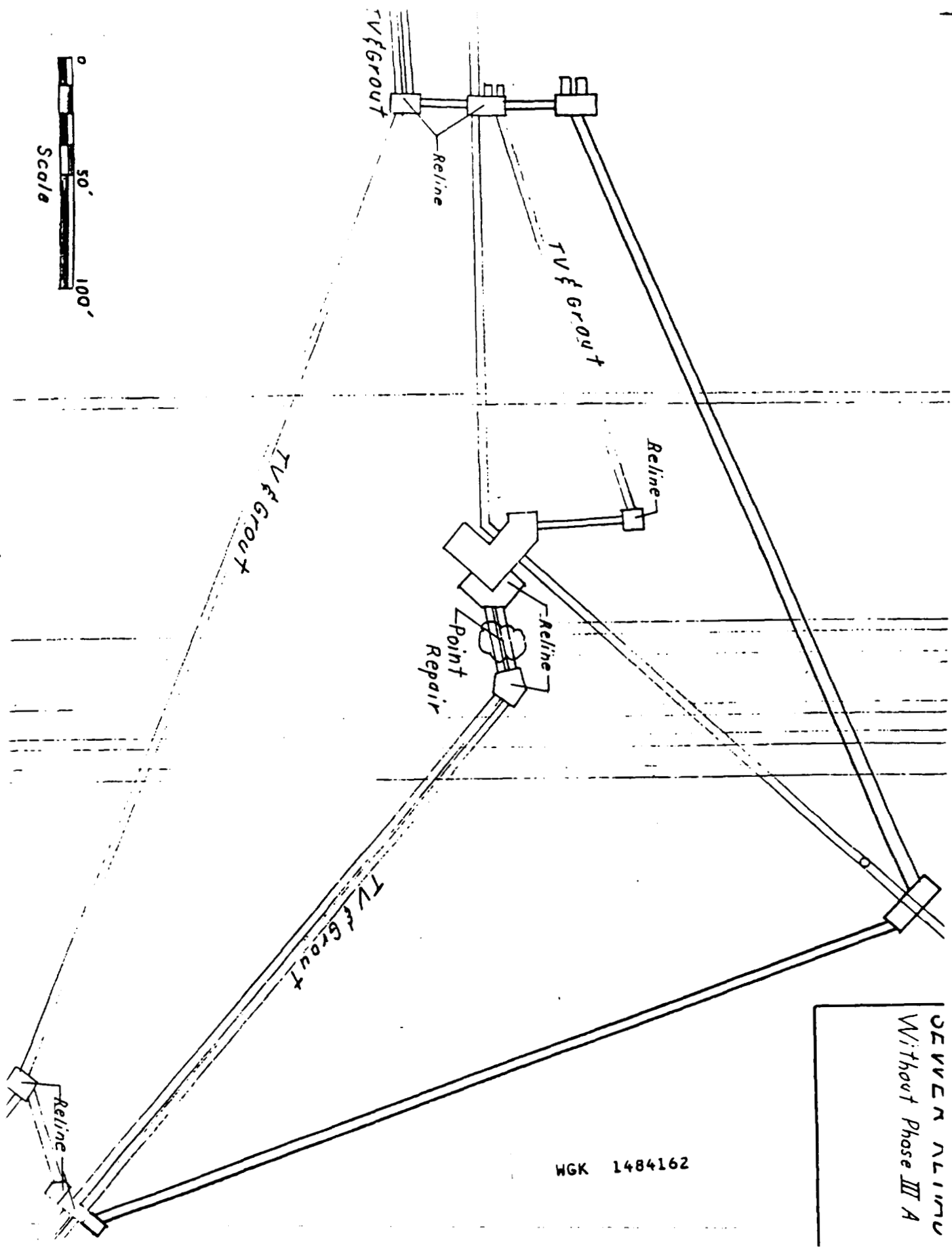
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CLEVEN ALINDO
Existing
Functional System



SEVEN KILLOD
As-Designed

WGK 1484160

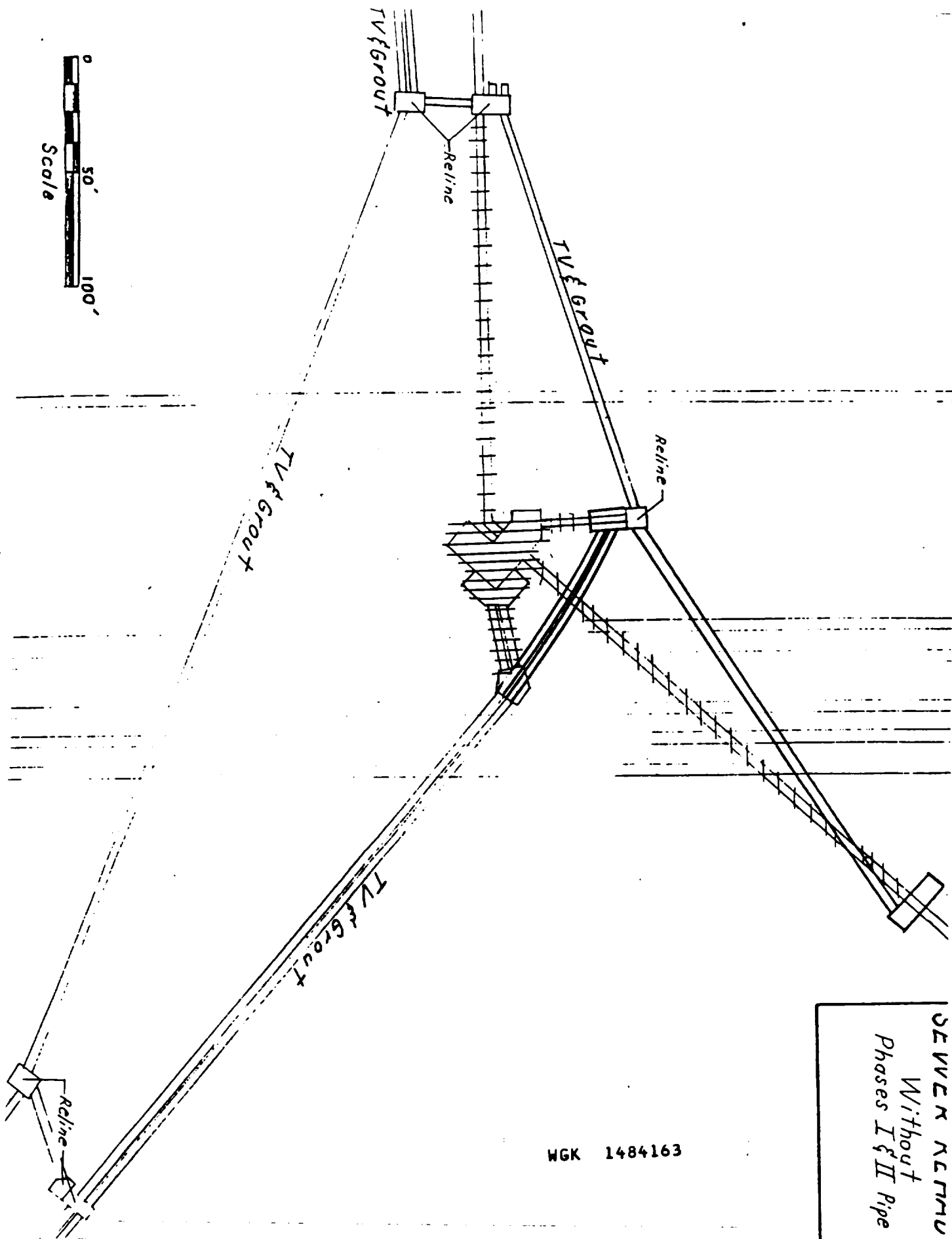
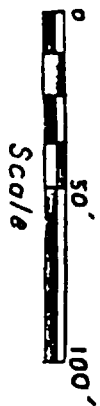


SEVEN ALIENS
Without Phase III A

WGK 1484162

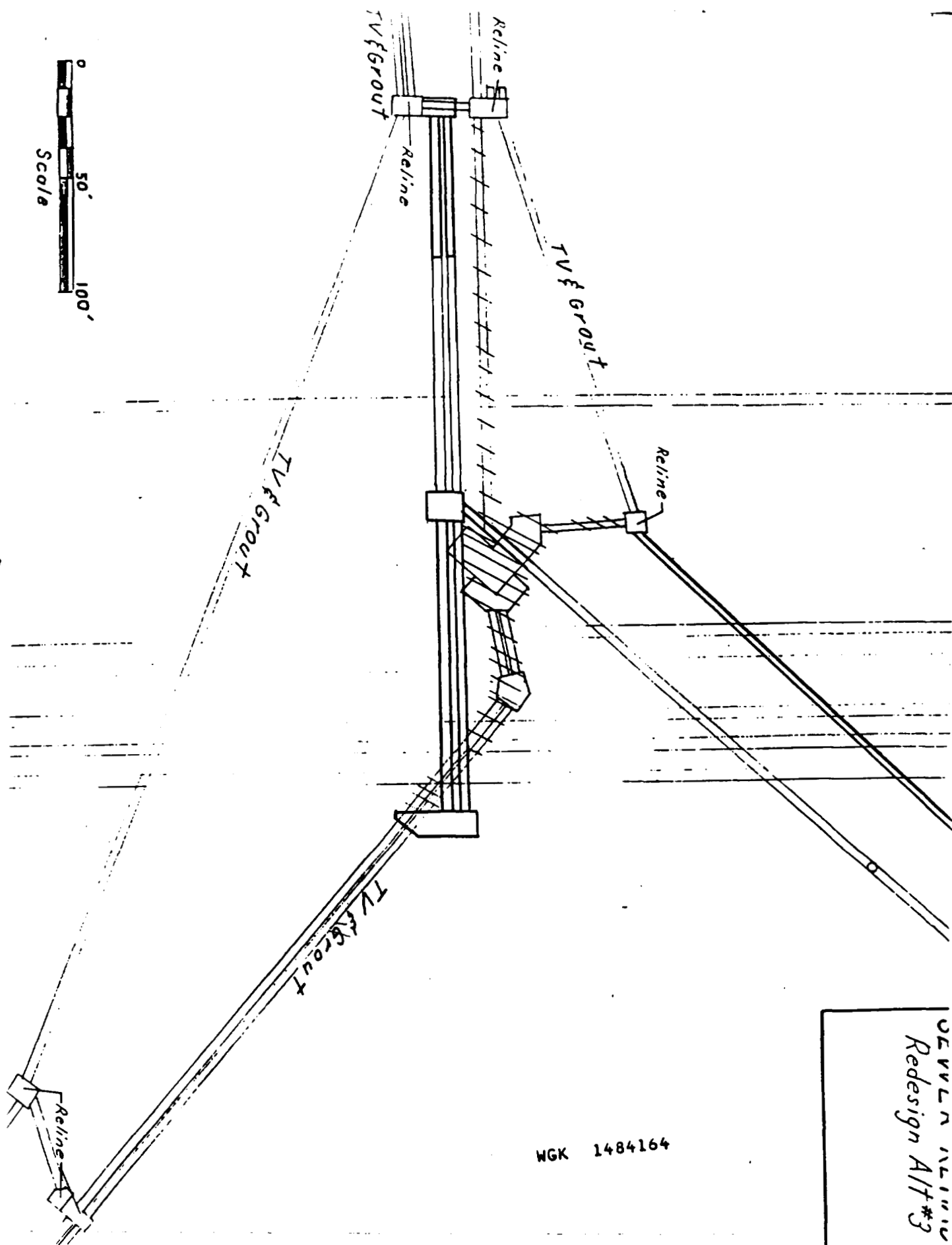
SEWER ALTERNATIVE
Without
Phases I & II Pipe

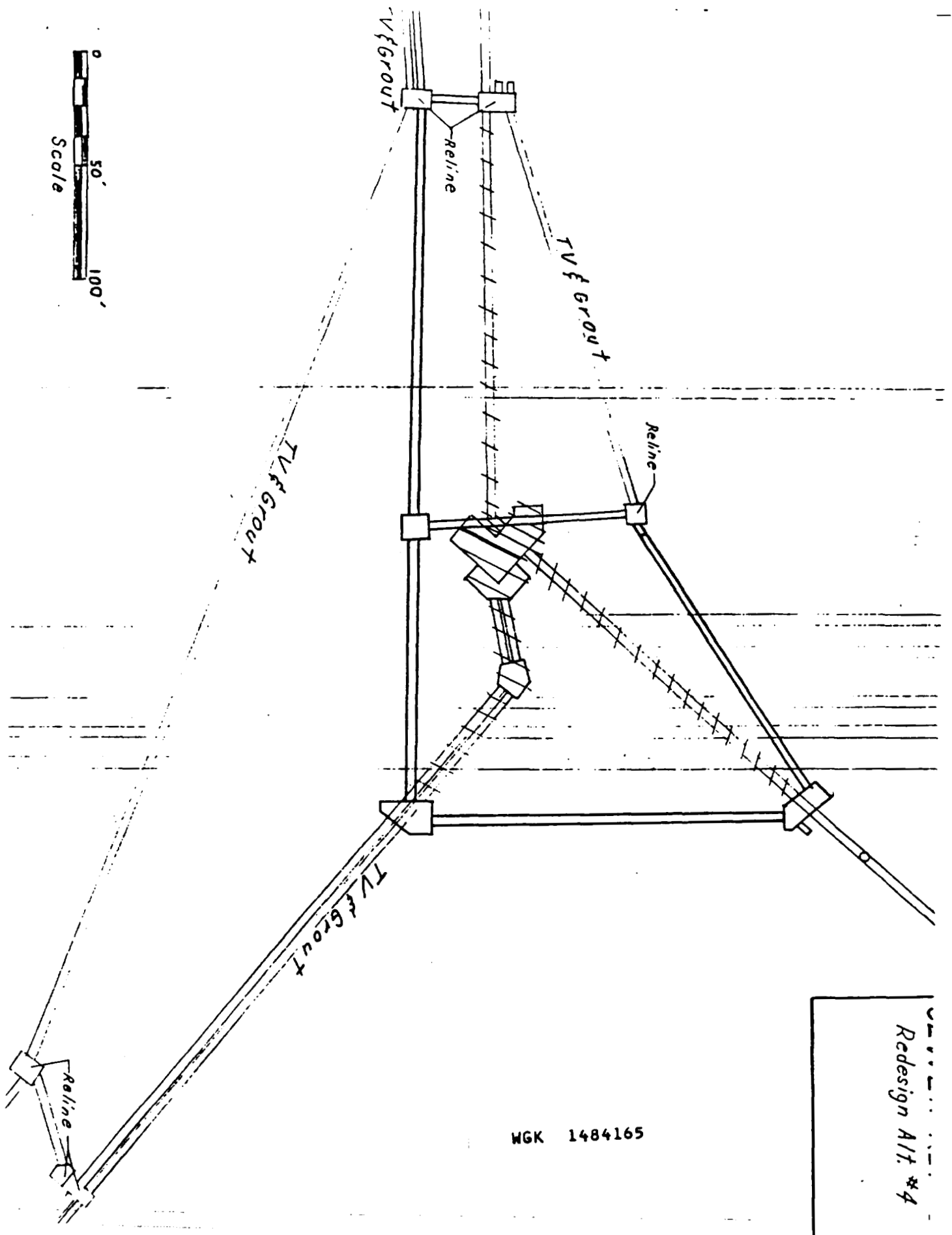
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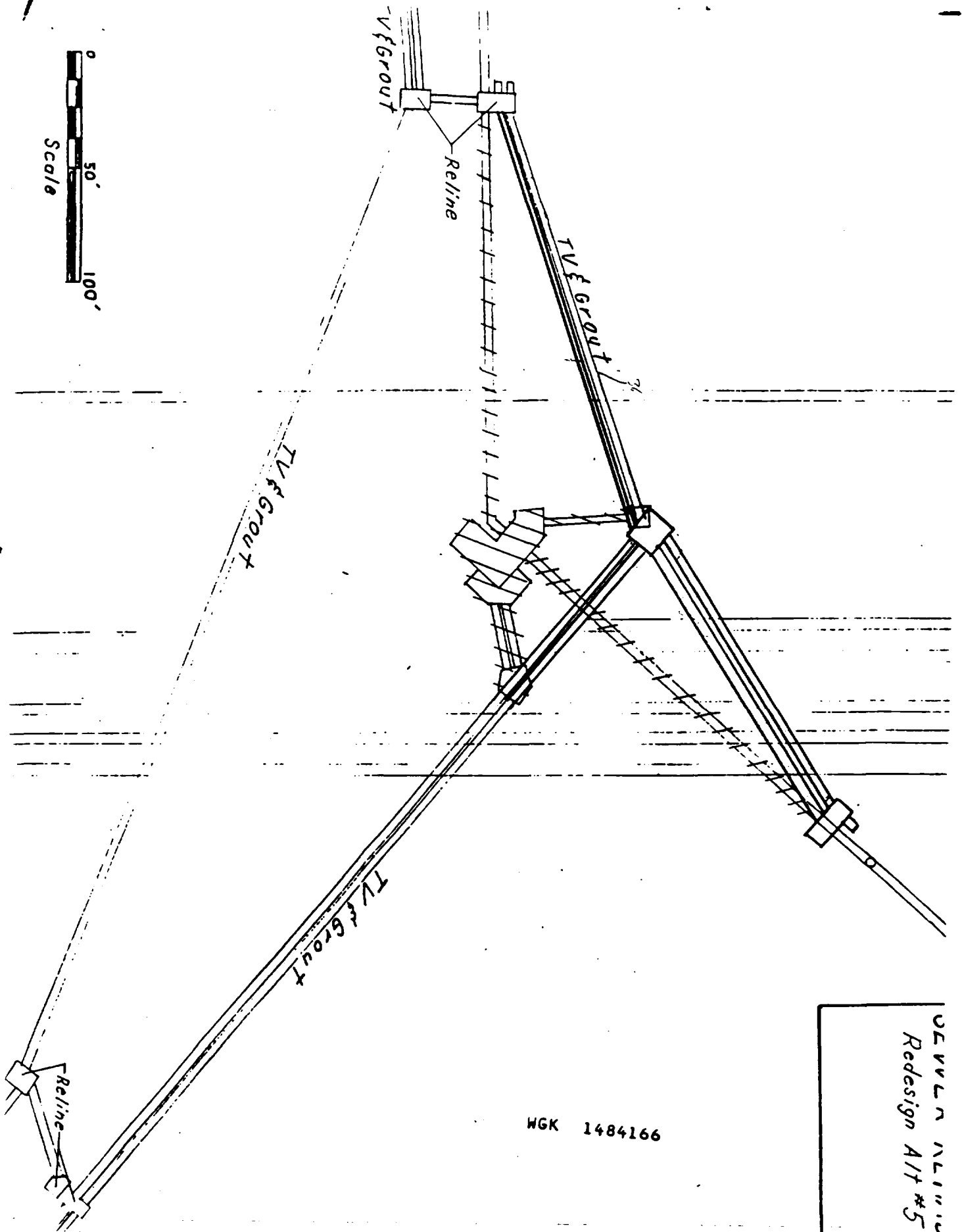
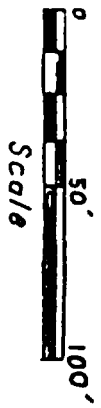


DEVLN INTC
Redesign A/T#3

WGK 1484164

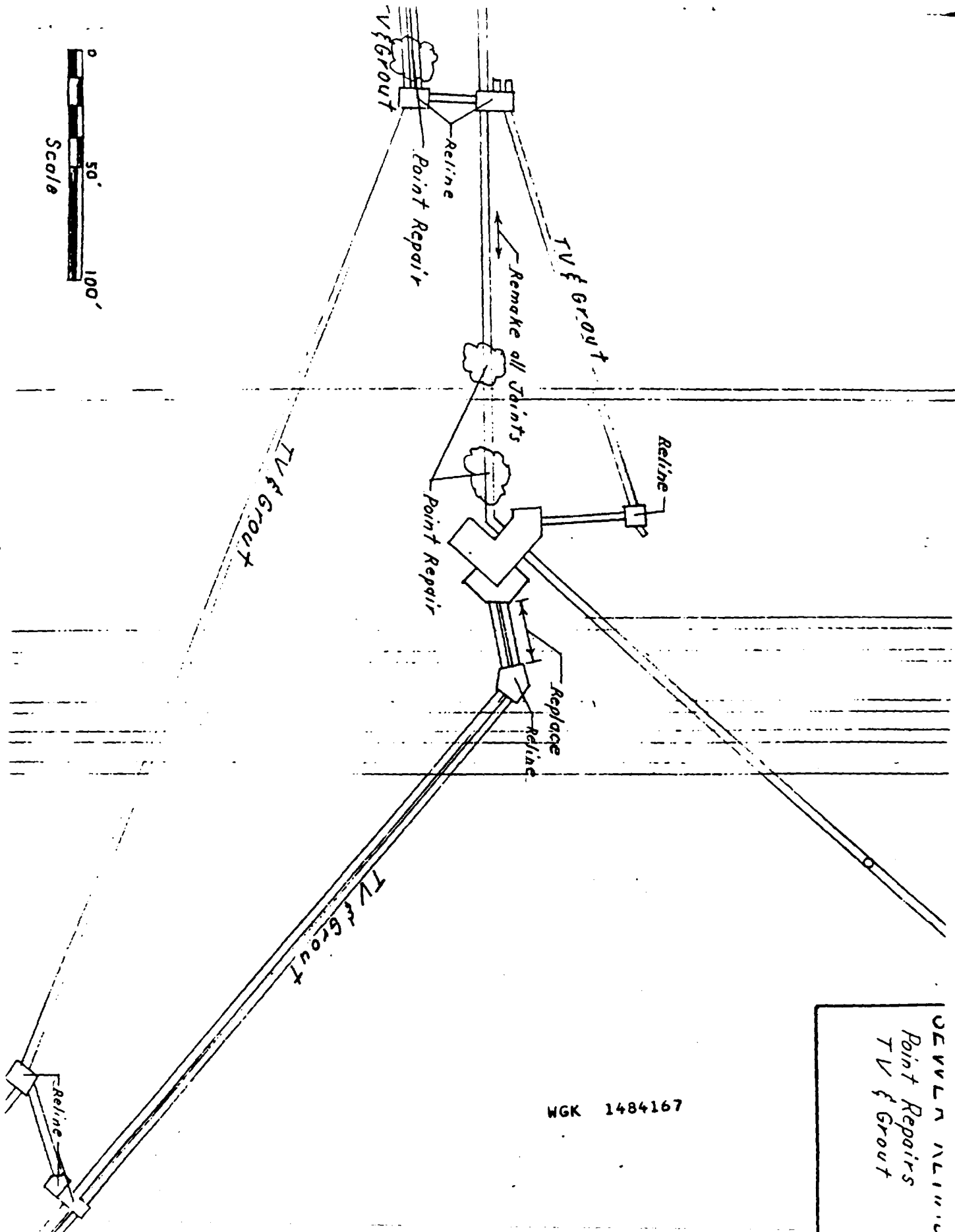






WGK 1484166

DEVLN ALI...
Redesign A/T #5



CEVEN ALI...
Point Repairs
TV & Grout

WGK 1484167

P. H. WEIS & ASSOCIATES INC.
ENGINEERS / ARCHITECTS / PLANNERS
PROJECT NO. 7313-84-2

WGK 1484168

BID TABULATION
VILLAGE OF SAUGET, ILLINOIS
SEWER REHABILITATION
PHASES I, II & IIIA

F
SAUGET GENCO

DECEMBER 19, 1985

	<i>J. S. Alberici Construction Co.</i>	<i>Kelley Bros. Contracting Co.</i>	<i>McCarthy</i>	<i>Tarlton</i>	<i>Helmer Const. Co.</i>	
BID BOND	5%	5%	5%	5%	5%	
BASE BID	5,998,500.00	5,665,000.00	5,724,720.	7,152,000.00	5,330,000.00	5,631,000
ALTERNATE NO. 1 - 2" Furan Conc. Slab in Lieu of Furan Fiberglass Reinforced Panels	+ 60,000.00 Time est. 30 days	+ 67,500.00 Time est. 0 days	+ 51,634.00 0 days	+ 100,000. 200 days	+ 60,000.00 0 days	
ALTERNATE NO. 2 - Open Excavate in Lieu of Tunneling	+ 65,000. Time est. 30 days	+ 225,000. 21 days	+ 276,345. 30 days	+ 1,000,000. 200 days	- 50,000.00 + 30 days	5290 5693 0706 000
ALTERNATE NO. 3 - Furan Conc. Bullrings in Lieu of Arched Brick Bullrings	No Change Time est. 0	+ 57,000. 0	- 6800.00 0	+ 70,000.00 30 days	No bid	
ALTERNATE NO. 4 - Oversize Tunnel to Construct Full Furan Tamping Mix Jt. in Tunnel	+ 525,000. Time est. 60 days	+ 650,000.00 86 days	- 90,900.00 deduct 15 days	+ 500,000 100 days	No bid	
ADDENDA NOTED	1 thru 4	1 thru 4	1 thru 4	1 thru 4	1 thru 4	

EPA/CERO COPPER/ELL/PCB ATTORNEY WORK PRODUCT / ATTORNEY CLIENT PRIVILEGE

Monsanto

F
Sauget + Searle

MONSANTO INDUSTRIAL CHEMICALS CO.
Sauget, Illinois 62201
Phone: (618) 271-5835

July 23, 1985

Mr. Harold G. Baker, Jr.
Attorney at Law
56 South 65th Street
Belleville, Illinois 62223

Dear Mr. Baker:

We have received the draft of the Preliminary Official Statement. The names of our representatives on the Association Board of Directors are correct.

The Village has our permission to print the company statement as shown in the draft. I would suggest that you add at the end to the last paragraph - On July 18th Monsanto announced its intention to acquire G. D. Searle and Company at a cost of approximately \$2.7 billion.

Sincerely,

of the next
Warren L. Smull

Warren L. Smull

cc: P. Sauget
J. Molloy

WGK 1484169

Village of Sauget

Handwritten signature of Paul Sauget

Paul Sauget
Mayor

Handwritten signature of F. Villager
F. Villager
Sewer

2897 Falling Springs Road
Sauget, Illinois 62206

(618) 337-5267

NOTICE OF PUBLIC HEARING ON PROPOSITIONS TO CREATE SPECIAL SERVICE AREA NUMBER I IN AND OF THE VILLAGE OF SAUGET, ST. CLAIR COUNTY, ILLINOIS, AND TO ISSUE \$10,000,000 GENERAL OBLIGATION BONDS FOR SAID SPECIAL SERVICE AREA NUMBER I

NOTICE IS HEREBY GIVEN that the President and Board of Trustees of the VILLAGE OF SAUGET, St. Clair County, Illinois, will hold and conduct a Public Hearing on the propositions hereinafter described at 7:00 o'clock P.M. (Central Standard Time) on Tuesday, February 12, 1985, at the Sauget Village Hall, 2897 Falling Springs Road (formerly Monsanto Avenue), Sauget, St. Clair County, Illinois.

The propositions to be considered at said Public Hearing shall be:

A. To create Special Service Area Number I in and of the VILLAGE OF SAUGET, St. Clair County, Illinois, said Special Service Area Number I to consist of those parts of said VILLAGE as are described in the LEGAL DESCRIPTION OF SPECIAL SERVICE AREA NUMBER I IN THE VILLAGE OF SAUGET, ST. CLAIR COUNTY, ILLINOIS which is attached hereto, marked Exhibit A and, by this reference, incorporated herein and made a part hereof; and

B. For the purposes of repairing and improving the combined sewer collection system which primarily serves said Special Service Area Number I, to issue general obligation bonds for and on behalf of said Special Service Area Number I in an amount of not to exceed \$10,000,000; said bonds to be retired in not more than twenty (20) years; said bonds to bear interest at not to exceed fifteen percent (15%) per annum; and said bonds to be retired by the levy of a direct annual tax to pay the interest on said bonds as it falls due and to discharge the principal thereof at maturity; said tax to be levied upon all taxable property within the proposed special service area.

An accurate map showing the boundaries of said proposed Special Service Area Number I is on file with the Village Clerk in her office in the Sauget Village Hall, 2897 Falling Springs Road, Sauget, Illinois where it may be examined during her normal office hours (8:30 A.M. - 3:45 P.M.).

WGK 1484170

The propositions to be considered at said Public Hearing are more fully set forth in that certain Ordinance numbered 529 and entitled "AN ORDINANCE PROPOSING THE ESTABLISHMENT OF SPECIAL SERVICE AREA NUMBER I IN AND FOR THE VILLAGE OF SAUGET, ST. CLAIR COUNTY, ILLINOIS, AND THE ISSUANCE OF \$10,000,000 GENERAL OBLIGATION BONDS THEREFOR AND PROVIDING FOR A PUBLIC HEARING AND OTHER PROCEDURES IN CONNECTION THEREWITH" adopted by the President and Board of Trustees of said VILLAGE and approved by the President (Mayor), all on January 10, 1985. Said resolution may also be examined in the said office of the Village Clerk during her said normal office hours.

This notice is being given to all owners of taxable property located in said VILLAGE even though some of said property is not to be included in said Special Service Area Number I.

At said Public Hearing, all interested persons affected by the formation of Special Service Area Number 1, including all persons owning taxable real property located within the proposed special service area, will be given an opportunity to be heard regarding the formation and the boundaries of the special service area and the issuance of such bonds.

Also, all such interested persons will be given an opportunity to file written objections to the formation and boundaries of such special service area and/or the issuance of such bonds.


The Public Hearing may be adjourned by the President and Board of Trustees without further notice to another date or dates without further notice other than a motion to be entered upon the minutes of their meeting fixing the time and place of its adjournment and reconvening.

If a petition signed by at least 51% of the electors residing within the special service area and by at least 51% of the owners of record of the land included within the boundaries of the special service area is filed with the Village Clerk at her said office within 60 calendar days following the final adjournment of the Public Hearing objecting to the creation of the special service district and/or the issuance of bonds for the provision of special services to the area, no such district may be created or no such bonds may be issued. Each resident of the special service area registered to vote at the time of the public hearing held with regard to such special service area shall be considered an elector. Each person in whose name legal title to land included within the boundaries of the special service area is held according to the records of St. Clair County shall be considered an owner of record. Owners of record shall be determined at the time of the Public Hearing held with regard to the special

WGK 1484171

service area. Land owned in the name of a land trust, corporation, estate or partnership shall be considered to have a single owner of record.

IN WITNESS WHEREOF I have hereunto set my hand and affixed the official seal of the VILLAGE OF SAUGET, St. Clair County, Illinois on this 11th day of January, 1985.


Betty Long Wilson
BETTY LONG WILSON
Village Clerk
VILLAGE OF SAUGET, ILLINOIS

WGK 1484172

LEGAL DESCRIPTION OF SPECIAL SERVICE AREA NUMBER I IN THE
VILLAGE OF SAUGET, ST. CLAIR COUNTY, ILLINOIS

Special Service Area Number I in and of the VILLAGE OF SAUGET, St. Clair County, Illinois, shall consist of the two (2) Parcels of real estate hereinafter described, to wit:

Parcel A

Parcel A of Special Service Area Number I in and of the VILLAGE OF SAUGET, St. Clair County, Illinois, shall consist of the following described part of Lots 80, 81, 119 and 123 of COMMONFIELDS OF CAHOKIA; reference being had to the plat thereof recorded in the Recorder's Office of St. Clair County, Illinois in Book of Plats E at Pages 16 and 17; to wit:

Commencing at the Point of Beginning which is the point of intersection of the easterly right-of-way line of the MISSOURI PACIFIC RAILROAD COMPANY with the southerly line of said Lot 119;

Thence easterly along the southerly line of said Lot 119, a distance of 4,458.33 feet to a point;

Thence northerly on a line which makes an interior angle of 90° with the last above described line to the point of intersection with the northerly corporate boundary line of the VILLAGE OF SAUGET, St. Clair County, Illinois;

Thence westerly along the northerly corporate boundary line of said VILLAGE to the easterly right-of-way line of the MISSOURI PACIFIC RAILROAD COMPANY; and

Thence southerly along the easterly right-of-way line of said railroad to the Point of Beginning;

Being TAX PARCEL 01-25-0-200-001.

Parcel B

Parcel B of Special Service Area Number I in and of the VILLAGE OF SAUGET, St. Clair County, Illinois, shall consist of that part of said VILLAGE which lies westerly of the easterly right-of-way line of the MISSOURI-PACIFIC RAILROAD COMPANY,

EXHIBIT A
(Page 1 of 4 Pages)

WGK 1484173

but shall *exclude* and shall *not include* the four (4) areas which have been zoned for residential uses only (reference being had to Ordinance No. 528 of the VILLAGE OF SAUGET which was adopted and approved on December 11, 1984 and a certified copy of which was recorded in the Recorder's Office of St. Clair County, Illinois on December 21, 1984 in Book 2591 at Page 1353 as Document No. A794559) and which four (4) *excluded* areas are described as follows, to wit:

EXCLUSION A: Commencing at the Point of Beginning which is the point of intersection of the easterly right-of-way line of FALLING SPRINGS ROAD (also known as S. A. Route 10 and formerly known as MONSANTO AVENUE and LOWER CAHOKIA ROAD or AVENUE) with the northerly right-of-way line of the alley which lies 228.4 feet northerly of, and runs parallel to, LITTLE AVENUE; reference being had to said alley and said LITTLE AVENUE as shown on the plat of SUBDIVISION OF PART OF LOT 125F AND ALL OF LOT 125G OF THE SUBDIVISION OF PART OF LOT 125 OF THE COMMONFIELDS OF CAHOKIA recorded in the Recorder's Office of St. Clair County, Illinois in Book of Plats 29 at Page 25;

Thence easterly along the northerly right-of-way line of said alley and its easterly extension to its point of intersection with the easterly right-of-way line of the former EAST ST. LOUIS, COLUMBIA & WATERLOO RAILWAY COMPANY (also known as the EAST ST. LOUIS, COLUMBIA & WATERLOO ELECTRIC RAILWAY);

Thence southerly along the easterly right-of-way line of said former railroad to its point of intersection with the easterly extension of the northerly line of Lot 126 of COMMONFIELDS OF CAHOKIA: reference being had to the plat thereof recorded in said Recorder's Office in Book of Plats E at Pages 16 and 17;

Thence westerly along the easterly extension of the northerly line of said Lot 126 and along the northerly line of said Lot 126 to its point of intersection with the easterly right-of-way line of said FALLING SPRINGS ROAD; and

Thence northerly along the easterly right-of-way line of said FALLING SPRINGS ROAD to the Point of Beginning.

EXHIBIT A
(Page 2 of 4 Pages)

WKG 1484174

EXCLUSION B: Commencing at the point of intersection of the easterly right-of-way line of FALLING SPRINGS ROAD (also known as S. A. Route 10 and formerly known as MONSANTO AVENUE and LOWER CAHOKIA ROAD or AVENUE) with the northerly line of MONSANTO HEIGHTS, A SUBDIVISION OF PART OF LOTS 127 AND 128 OF THE COMMONFIELDS OF CAHOKIA; reference being had to the plat thereof recorded in the Recorder's Office of St. Clair County, Illinois in Book of Plats 28 at Page 31;

Thence easterly along the northerly line of said subdivision and its easterly extension to the easterly right-of-way line of the former EAST ST. LOUIS, COLUMBIA & WATERLOO RAILWAY COMPANY (also known as the EAST ST. LOUIS, COLUMBIA & WATERLOO ELECTRIC RAILWAY);

Thence southerly along the easterly right-of-way line of said former railroad to its point of intersection with the easterly extension of the southerly right-of-way line of NICKELL STREET; reference being had to NICKELL STREET as shown on said plat of MONSANTO HEIGHTS SUBDIVISION;

Thence westerly along the easterly extension of said southerly right-of-way line of NICKELL STREET and along the southerly right-of-way line of NICKELL STREET to its point of intersection with the easterly right-of-way line of said FALLING SPRINGS ROAD; and

Thence northerly along the easterly right-of-way line of said FALLING SPRINGS ROAD to the Point of Beginning.

EXCLUSION C: Commencing at the Point of Beginning which is the point of intersection of the westerly right-of-way line of the former EAST ST. LOUIS, COLUMBIA & WATERLOO RAILROADCOMPANY (also known as the EAST ST. LOUIS, COLUMBIA & WATERLOO ELECTRIC RAILWAY) with the northerly line of Lot 126 of COMMONFIELDS OF CAHOKIA; reference being had to the plat thereof recorded in the Recorder's Office of St. Clair County, Illinois in Book of Plats E at Pages 16 and 17;

Thence easterly along the northerly line of said Lot 126 to a point thereon, said point being 160 feet westerly of the westerly right-of-way line of UPPER CAHOKIA ROAD (also known as S. A. Route 35);

EXHIBIT A
(Page 3 of 4 Pages)

WGK 1484175

Thence North 36 degrees 42 minutes East, a distance of 278.47 feet to a point;

Thence South 48 degrees 08 minutes East, a distance of 140 feet, more or less, to a point, said point being on the westerly right-of-way line of said UPPER CAHOKIA ROAD;

Thence southerly along the westerly right-of-way line of said UPPER CAHOKIA ROAD to its point of intersection with the northerly line of the parcel of real estate upon which CURTISS STEINBERG DRIVE is located; the said CURTISS STEINBERG DRIVE being a private road owned by BI-STATE DEVELOPMENT AGENCY OF THE MISSOURI-ILLINOIS METROPOLITAN DISTRICT and said parcel being that described in the deed to it from PAUL SAUGET dated February 27, 1980 and recorded in said Recorder's Office in Book 2482 at Page 1268 as Document No. A647962;

Thence westerly along the northerly line of said parcel of real estate upon which CURTISS STEINBERG DRIVE is located to its point of intersection with the easterly right-of-way line of the said former EAST ST. LOUIS, COLUMBIA & WATERLOO RAILWAY COMPANY; and

Thence northerly along the easterly right-of-way line of said former railroad to its point of intersection with the easterly extension of the southerly line of said Lot 126;

Thence westerly along the easterly extension of the southerly line of said Lot 126 to its point of intersection with the westerly right-of-way line of said former railroad; and

Thence northerly along the westerly right-of-way line of said former railroad to the Point of Beginning.

EXCLUSION D: So much of Lot 116 of the COMMONFIELDS OF CAHOKIA; reference being had to the plat thereof recorded in the Recorder's Office of St. Clair County, Illinois in Book of Plats E at Page 16 and 17; and of Lot 5 of CLODONS SUBDIVISION; reference being had to the plat thereof recorded in said Recorder's Office in Book of Plats W at Page 36; as lies between UPPER CAHOKIA ROAD (also known as S. A. Route 35) and the westerly right-of-way line of the MISSOURI PACIFIC RAILROAD COMPANY.

EXHIBIT A
(Page 4 of 4 Pages)

WGK 1484176

SCHEDULE OF EXCLUDED PARCELS

Corrected
F. Sauget
General

<u>TAX PARCEL NUMBER</u>	<u>NAME</u>	<u>1984 AV</u>
01-26-404-002	Paul Sauget	\$ 2,000
-003	Monsanto	7,472
-004	do	10,391
-005	do	2,000
-006	Paul Sauget	3,567
-007	do	9,626
-008	do	7,526
-009	do	7,815
-010	Albert Joshlin, et ux.	5,826
-012	Ann Kearney	6,046
-013	Paul Sauget	8,464
-014	do	9,819
-015	Darrell Batson	6,438
-016	Paul Sauget	9,836
-017	do	9,358
-018	Carl Batson, et ux.	13,117
-019	Charles Thomas, et ux.	11,340
-020	Nich. Adele, et ux.	11,789
-021	Paul Sauget, et al.	6,554
-022	Louis Miller, et ux.	14,945
-023	Joe Hawkins, Jr.	14,908
-024	Rodger A. Lane, et ux.	8,897
-025	Leo Sauget	15,416
-026	M. Mischke, et al.	1,454
-027	do	1,367
01-26-406-001	Paul Sauget, et al.	5,000
-002	do	2,500
-003	do	2,500
-004	do	8,894
-005	do	8,770
-006	Paul Sauget	3,899
-007	Edward Horton, et ux.	8,397
-008	Evert Russell, et ux.	8,334
-009	David Cleveland	10,473
-010	Loretta O'Dell	8,691
-011	Homer Adele, et ux.	9,823
-012	Lola Gregory	13,129
-013	Mary Sadowski	10,633
-014	Paul Sauget, et al.	3,667
-015	do	6,650
-016	Glenn Jones	13,336
-017	Marvin Ogden, et ux.	3,337
-018	do	13,678
-019	Fred. Davis, et ux.	11,401
-020	Ralph Thornton	12,761
-021	Paul Sauget, et al.	4,209
-022	do	5,240
-023	do	2,667

01-26-407-001	Paul Sauget, et al.	3,867
-002	do	2,500
-003	do	2,500
-004	do	2,500
-005	do	2,500
-006	do	2,767
-007	do	1,767
-008	Bank of Belleville (22-398)	12,339
-009	John Stevens	8,443
-010	M. Mischke	14,701
-011	do	833
-012	Maxine Dale	833
-013	Maxine Dale, et al.	12,234
-014	Patty Hartline	10,933
-015	Sybil Lough	15,552
-016	J. Nicholson, et al.	15,445
-017	do	3,369
-018	Pansy Foree	11,801
-019	Oliver Reeves	16,634
-022	Thomas Sheils, et ux.	13,329
-023	Michael Sheils, et ux.	14,371
-024	Donna Tanner	11,276
-025	Earl Bairett, et ux.	10,125
-026	Robert Horton, et ux.	1,667
-027	Paul Sauget, et al.	2,353
-028	do	7,662
-029	do	7,322
-030	do	12,227
-031	do	13,232
-032	Paul Sauget	3,425
-033	do	1,667
-034	do	2,763
-035	Paul Sauget, et al.	10,664
-036	Vincent Sauget	10,621
-037	Edward Bastin, et ux.	5,234
-038	Paul Sauget, et al.	7,708
-039	do	8,148
-040	Richard Stillman	8,333
-041	Robert Horton, et ux.	8,241
-042	do	18,223
-043	do	14,746
-044	do	2,333
01-26-408-001	Chicago Title (1086095)	5,767
-002	do	5,667
01-35-200-028	Paul Sauget	827
01-36-100-003	Paul Sauget	433
-004	do	7,967
-005	Richard Stillman	10,644
-006	do	67
-007	do	959
-008	Paul Sauget	14,257
-009	do	22,840
-011	M. Saunders	433

01-36-101-001	Paul Sauget	10,620
-002	do	1,200
-003	Bi-State	0
01-36-300-001	Illinois State Trust	15,155
-002	Gordon Cohen Farms	11,750
-003	Bi-State	2,266
-004	do	0
-005	Thomas Soucy, et al.	5,972
-016	Bi-State	0
-018	do	0
-019	do	0
-020	do	0
02-31-300-005	Jessie L. Moss, et al.	27,271
06-01-200-005	Bi-State	1,400
07-06-400-014	John Lorentzen	573

To Be Excluded

01-26-401-001	James Cronin, et ux.	17,783
-002	Mid-America (1046-51)	67
-006	Emily Hankins	20,333 *
-010	Andrew Hankins, et ux.	67

TOTAL		\$ 897,633
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* Only part is to be excluded. However, for this purpose, 100% is excluded.



☒ Telecon
☐ Conference Report

F
Sargent Sensors

Subject: SAUGET FAC. PLAN (AMM) Date: 1/25/84
Participants: Larry Rhutasei & PHW

Originated by: L. R.

RANGE FOR FAC PLAN \$10,000⁰⁰ - \$15,000⁰⁰
(201)

Proj Eng 68⁰⁰ / hr

Proj Eng 36⁰⁰

Eng 33⁰⁰

Eng Ad 34⁰⁰

Draft 21⁰⁰

Clerical 18⁰⁰

END TELECON

Est. PHW Input \$5,000⁰⁰ → \$10,000⁰⁰

Tot Preliminary Eng Report Cost Est
\$15,000⁰⁰ → \$25,000⁰⁰

WGK 1484180

Signed: [Signature] Page 1 of 1

Distribution: Sauget Contract File

nuveen

December 2, 1983

*Jack
Fitzgerald
NLS
F
Sauget Sewers*

Mr. Warren Smull
Monsanto Company
Sauget, Illinois 62201

Re: Proposed Sauget Sewer Bond Project

Dear Warren:

As we discussed today, it would be helpful to have, in connection with the proposed bond issue, an expanded description of the Monsanto plant in Sauget.

Our thought is that the description include as much detail relating to the following topics as possible:

- 1) History of the plant; when it was established and what it was originally designed to produce.
- 2) Products presently being manufactured; how many different kinds; what they are used for; how important are they relative to other Monsanto operations.
- 3) Importance of the Sauget plant relative to overall Monsanto operations. Is there any way of determining what portion of Monsanto revenues are generated by the Sauget plant?
- 4) Is it significant (relative to the Sauget plant) that the Monsanto headquarters is in St. Louis.
- 5) Employment trends; indication of current employment level; total dollar amount of payroll; how have these statistics increased or decreased over the past five years.
- 6) Trend in product output; number of products produced; number of products manufactured; has the number of products increased or decreased and has total output increased or decreased during the past 5 years.
- 7) Replacement cost of plant; new investment or construction during recent years; upgrading of technology or anything else that indicates Monsanto intends to keep these facilities up-to-date.

WGK 1484181

Letter to Warren Smull
December 2, 1983
Page Two

- 8) Total size (acreage of Monsanto plant); total number of buildings; total square footage under roof; number of "production lines"; other indications of the scale of the plant.
- 9) Other indications that the Sauget plant is one of Monsanto's primary manufacturing facilities and that the chemicals produced are essential to Monsanto and are not readily available elsewhere.

If you have any question concerning this request, do not hesitate calling to discuss the matter. My direct telephone line is 312/621-3030.

Very truly yours,

JOHN NUVEEN & CO. INCORPORATED



Richard S. Swiatek
Assistant Vice President

RSS/md

Enclosure

WGK 1484182

217/782-2027

Sauget
0171440
Step 1 Supplemental Grant Request

April 2, 1984

Mr. Paul Sauget, President
Village of Sauget
2897 Falling Springs Road
Sauget, Illinois 62206

Dear Mr. Sauget:

On November 16, 1983, the Village of Sauget submitted a grant amendment request for \$83,704 to increase the scope of sewer survey work in the Sauget collection system. The increase in funding was for additional cleaning and television inspection of the system to locate infiltration sources for possible rehabilitation.

On December 12, 1983, the Agency responded to this request with a letter questioning the justification for this additional survey work, in view of the fact that the Village had never made a convincing demonstration that infiltration in the Sauget combined sewer system is excessive, or even possibly excessive. In a subsequent meeting on January 13, 1984, representatives of the Village agreed to prepare and submit an addendum to the East St. Louis F.P.A. facilities plan that would address the issue of excessive infiltration in the Sauget system, as well as address the need for "major" sewer rehabilitation to replace portions of the system which have deteriorated very badly as a result of high groundwater and corrosive industrial waste.

The "Addendum to Facilities Plan and Infiltration-Inflow Analysis" was received by this Agency on March 1, 1984, and has now been reviewed from both a technical and grants eligibility standpoint. Our findings and conclusions are as follows:

1. The cost-effectiveness analysis to determine whether or not infiltration is excessive should compare the cost of treating that portion of infiltration which can reasonably be removed by rehabilitation methods, with the cost of removing it by such methods. The annual cost of major repairs to the system, while certainly critical to the question of need for "major" rehabilitation, really has no place in a determination of whether or not infiltration is excessive.

WGK 1484183

2. Given this, Sauget indicates a present worth treatment cost for infiltration to be \$4,000,000, but proposes a corrective program totaling \$10,973,000, which would incidentally resolve most of the structural problems in the deteriorated system. While we don't argue the need for major repairs and improved maintenance to the system, it is obvious to us that the work proposed cannot be justified on the basis of cost-effective removal of excessive infiltration. On the basis of the cost analysis presented, it is clearly much less costly to treat infiltration than to attempt its removal by means of the proposed project. Infiltration is therefore by definition non-excessive.

We might also point out that this analysis has some serious flaws that further reinforces our conclusion. First of all, the Village bases its analysis on an apparent assumption that all infiltration is removable by the program proposed. This is simply not realistic. Draft Federal guidance currently being utilized by this Agency is a realistic criteria for I/I analysis, states that based on national experience only about 30% of the infiltration in any system is in fact removable. This being the case, we would expect that the return on the \$17 million rehabilitation program proposed would in fact reduce the present worth of treatment cost by only about \$1.2 million.

Finally, we would point out that infiltration in the Sauget system amounts to only about 9% of total flows. This is not particularly severe.

Our design criteria for treatment works generally assumes infiltration at about 20-25% of total flows.

3. Turning to the issue of major sewer rehabilitation (reconstruction or replacement to preserve the integrity of the system, as opposed to cost-effective reduction of infiltration), we are again, perplexed by the Village's conclusions, given the cost analysis presented. The report indicates that the combined cost of treating infiltration and making necessary annual repairs to the sewer system has a present worth of \$9,333,000. Yet the Village attempts to utilize this figure to justify a construction project of \$16,073,000. Again, it is simply not cost-effective to fund the program proposed. On the basis of this addendum, we not only cannot justify participation on the basis of infiltration reduction, but we cannot even find justification for grant participation in a major sewer rehabilitation project. If "major" rehabilitation were cost-effective, it would be funded at a priority independent of the treatment works. Based on the priority scores of other major rehabilitation projects on our priority list, the project would be far out of our fundable priority range for the foreseeable future.

WGK 1484184

CONCLUSIONS

1. The addendum establishes that infiltration in the Sauget system is non-excessive. The requested amendment to the Sauget Step 1 grant for further sewer evaluation studies is therefore denied as having no basis in an I/I analysis, per 40 CFR 35.2120.
2. The addendum fails to demonstrate the cost-effectiveness of a grant funded "major" sewer rehabilitation program. The proposed project will therefore not be scored for priority on our fiscal year 1985 project priority list.

If you have any questions or comments, contact me at 217/782-2027.

Sincerely,

Original Letter Signed by James R. Leinicke

James R. Leinicke
Project Manager
Division of Water Pollution Control

JRL:cr/700D, 1-3

cc: Sauget, Clerk
Russell & Axon, Cons. Engr.
Permits
Field Office
File

WGK 1484185

W Small

HAROLD G. BAKER, JR.
ATTORNEY AT LAW

F
Village Sowers

October 19, 1984

The Honorable Paul Sauget, Mayor
Village of Sauget
2897 Falling Springs Road
Sauget, Illinois 62206

RE: Village of Sauget
(1984 G. O. Bond Issue)

Dear Paul:

A Mr. Polumbo (spelling questionable) of Mercantile just called in response to my letter of the 10th to Harry Schweppe.

Mercantile is not interested for its own portfolio - even in the short term (3 years or less) maturities.

It might be interested as an underwriter.

In that capacity, it would want an "exclusive" for a period of time, possibly 60 days.

In that capacity, it would look for greater security than just the general obligation of the Village, e.g., gross receipts tax or taxes, bond insurance of the AMBAC type, letters of credit from industries, etc.

Cordially yours,

HAROLD G. BAKER, JR.

✓ cc: Mr. John W. Molloy

HGBjr/mjm

WGK 1484186

56 SOUTH 65TH STREET, BELLEVILLE, ILLINOIS 62223 / (618) 397-6444

EPA/CERRO COPPER/EIL/PCB ATTORNEY WORK PRODUCT / ATTORNEY CLIENT PRIVILEGE

HAROLD G. BAKER, JR.
ATTORNEY AT LAW

December 3, 1984

The Honorable Paul Sauget, Mayor
Village of Sauget
2897 Falling Springs Road
Sauget, Illinois 62206

RE: Village of Sauget
(1984 G. O. Bonds)

Dear Paul:

Herewith are the original and two (2) photocopies of the proposed Investment Banking Agreement with Centerre which the Village Board approved on November 13, 1984.

Betty should put one (1) unsigned copy with those minutes.

You and Betty should sign and seal the original and the second copy.

Betty should keep the original.

Betty should mail the fully signed copy to:

Centerre Bank, N.A.
Attn: Mr. T. A. Dickson
P. O. Box 14979
St. Louis, Missouri 63178

Cordially yours,

HAROLD G. BAKER, JR.

cc: Mr. T. A. Dickson w/o encl.
Mr. Jack W. Molloy w/o encl.
Mr. Sam McWilliams w/o encl.
Mr. Paul Tandler w/o encl.
Mr. George Clark w/o encl.
Mr. Robert Reinhardt w/o encl.

Enclosures

HGBjr/mjm

WGK 1484187

56 SOUTH 65TH STREET, BELLEVILLE, ILLINOIS 62223 / (618) 397-6444

F - Village General

BRYAN, CAVE, McPHEETERS & McROBERTS

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

500 NORTH BROADWAY
ST. LOUIS, MISSOURI 63102
(314) 231-8600
TELEX: 4312030 BCMML STL

T STEPHEN DYER

September 28, 1985

1015 FIFTEENTH STREET, N.W.
WASHINGTON, D.C. 20005
(202) 288-8100
TELEX: 248428 BCMML UR

3100 CROCKER CENTER
333 SOUTH GRAND AVENUE
LOS ANGELES, CALIFORNIA 90071
(213) 828-8000
TELEX: 4720314 BCMML LSA

80/81 RUSSELL SQUARE
LONDON, WC1B 4JH
01-580-8888
TELEX: 264001 BCMML G

POST OFFICE BOX 20883
RIYADH, SAUDI ARABIA
488-1371
TELEX: 203063 INTLAW SJ

POST OFFICE BOX 2105
AL KHOSAR, SAUDI ARABIA
894-3000
TELEX: 670404 LAW SJ

TO THOSE ON THE ATTACHED
DISTRIBUTION LIST

Dear Members of the Working Group:

I enclose a revised draft, marked to show changes,
of the Preliminary Official Statement for The Village of
Sauget, Illinois Special Service Area Number 1 bond
transaction.

Please call me as soon as possible with your
comments and questions.

Very truly yours,

T. Stephen Dyer

/sr

Enc.

cc: Spencer B. Burke
James H. Erlinger

*Comments
called in 10/4/85
[Signature]*

WGK 1484188

**\$8,500,000 Village of Sauget, Illinois
Special Service Area Number 1 Unlimited
Ad Valorem Tax Bonds Series 1985**

Distribution List

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WGK 1484189

DRAFT

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PRELIMINARY OFFICIAL STATEMENT, DATED SEPTEMBER 30, 1985

NEW ISSUE

In the opinion of Bond Counsel, interest on the Bonds is exempt from Federal income taxes under present law. Interest on the Bonds is not exempt from Illinois income taxes.

\$8,500,000

VILLAGE OF SAUGET, ILLINOIS
SPECIAL SERVICE AREA NUMBER I
UNLIMITED AD VALOREM TAX BONDS
SERIES 1985

Dated: October 1, 1985 Due: January 1, as shown below

Interest on the Village of Sauget, Illinois Special Service Area Number I Unlimited Ad Valorem Tax Bonds Series 1985 (the "Bonds") will be payable on July 1 and January 1 in each year by the principal office of Centerre Trust Company of St. Louis, Missouri, which is acting as Paying Agent, Registrar and Transfer Agent, to the person whose name such Bond is registered at the close of business on the 15th day next preceding the payment date, with the first interest payment date being July 1, 1986. The Bonds will be issued as fully registered bonds in the denomination of \$5,000 or integral multiples thereof, not exceeding the aggregate principal amount of the Bonds maturing in any one year.

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1

Bonds maturing on and after January 1, 1996 are subject to redemption at the option of the Village of Sauget, Illinois Special Service Area Number I (the "Issuer") on any interest payment date on and after January 1, 1995, in whole or in part, in inverse order of maturities and by lot within a maturity, in integral multiples of \$5,000 at a redemption price of par and accrued interest to the date of redemption plus a premium, all as more fully described herein under the heading "DESCRIPTION OF THE BONDS AND REDEMPTION PROVISIONS".

The principal of and interest on the Bonds will be payable out of taxes levied on all taxable property within the boundaries of the Issuer and from certain funds and accounts, as described in this Official Statement. Such taxes will be levied for the sole benefit of the holders of the Bonds as described more fully in this Official Statement. Such holders have a security interest in and a lien upon such taxes. Upon collection of taxes levied to pay the Bonds by St. Clair County and receipt by the Village, such amounts will be deposited directly with Centerre Trust Company.

The Bonds do not constitute [^]a debt or liability of the State of Illinois or the Village of Sauget, Illinois (the "Village"), or any political subdivision thereof, other than the Issuer.

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MATURITY SCHEDULE

<u>Due Date</u> <u>July 1</u>	<u>Amount</u>	<u>Interest</u> <u>Rate</u>	<u>Yield</u> <u>Or Price</u>
1987	\$ 100,000	%	%
1988	125,000		
1989	150,000		
1990	175,000		
1991	200,000		
1992	225,000		
1993	550,000		
1994	625,000		
1995	775,000		
1996	875,000		
1997	1,000,000		
1998	1,400,000		
1999	1,800,000		
2000	2,000,000		

(accrued interest from October 1, 1985 to be added)

The Underwriters intend to make a public offering of the Bonds of the Issuer, but are not obligated to purchase the Bonds. See "Underwriting" herein.

The Bonds are offered when, as and if issued by the Area and subject to approval of legality by Chapman & Cutler, Chicago, Illinois, Bond Counsel. Certain legal matters will be passed on for the Underwriters by their counsel, Bryan, Cave, McPheeters & McRoberts, St. Louis, Missouri and for the Issuer by its Acounsel and the Village Attorney of the Village, Harold G. Baker, Jr., Belleville, Illinois. It is expected that the

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Bonds in definitive form will be available for delivery in St.
Louis, Missouri on or about October 31, 1985.

Dated: October __, 1985

CENTERRE BANK NATIONAL ASSOCIATION

A. G. EDWARDS & SONS, INC.

DREXEL ^ABURNHAM LAMBERT, INCORPORATED

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No dealer, broker, salesman or other person has been authorized by the Village of Sauget, Illinois Special Service Area Number I (the "Issuer") or the Underwriters to give any information or to make any representations other than those contained in this Official Statement, and, if given or made, such other information or representations must not be relied upon as having been authorized by any of the foregoing or as statements of the Issuer or the Village. This Official Statement does not constitute an offer to sell or the solicitation of any offer to buy, nor shall there be any sale of the Bonds, by any person in any jurisdiction in which it is unlawful to make such offer, solicitation or sale. The information set forth herein has been obtained from the Issuer, the Village of Sauget, Illinois (the "Village"), the Sauget Sanitary Development and Research Association (the "Association") and from such governmental bodies or other sources which are believed to be reliable, but such information is not guaranteed as to its accuracy or completeness by, and is not to be construed as a representation by, the Issuer or the Underwriters. The information and opinions expressed herein are subject to change without notice, and neither the delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the Issuer, the Village, any other governmental body described herein or the Association or in any of the other matters described herein since the date hereof. Certain factors affecting the financial and other affairs of the Issuer and certain additional information material to decisions to invest in the Bonds are set forth throughout this Official Statement, which should be considered in its entirety, and no one factor should be considered less important than any other by reason of its position in this Official Statement. This Official Statement is submitted solely in connection with the sale of the Bonds referred to herein and may not be reproduced or used, in whole or in part, for any other purpose.

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A

OFFICIAL STATEMENT

relating to

VILLAGE OF SAUGET, ILLINOIS
SPECIAL SERVICE AREA NUMBER I

\$8,500,000

Unlimited Ad Valorem Tax Bonds
Series 1985

INTRODUCTION

This Official Statement, which includes the Cover Page and Appendices, sets forth information concerning the Village of Sauget, Illinois Special Service Area Number I (the "Issuer") and its \$8,500,000 Unlimited Ad Valorem Tax Bonds Series 1985 (the "Bonds"), in connection with the proposed offering and sale of the Bonds. The Issuer was created by an Ordinance dated February 12, 1985 (the "Ordinance"), adopted by the President and Board of Trustees, and approved by Paul Sauget, the President of the Village of Sauget, Illinois (the "Village"). The Bonds will be issued pursuant to the Ordinance, and an implementing bond issuance and tax levy ordinance to be adopted by the President and Board of Trustees and approved by the President of the Village.

The Bonds are a debt of the Issuer only and do not constitute a debt of the State of Illinois or the Village within the meaning of any constitutional or statutory limitation. Neither the credit nor the taxing power of the Village is, or under any circumstances shall be, pledged as security for the payment therefor.

The summaries of, and references to, all documents ordinances, statutes, constitutions, reports or other instruments referred to herein do not purport to be complete and are qualified in their entirety by reference to each such document, ordinance, statute, constitution, report or instrument.

Investment Considerations

Payment of the principal of, premium, if any, and interest on the Bonds is dependent on the collection of ad valorem taxes to be levied on real property within the Village. A description of certain risk and other factors is included in the section entitled "INVESTMENT CONSIDERATIONS" herein.

*Village of Sauget, Illinois
Special Service Area Number I*

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1
VILLAGE OF SAUGET, ILLINOIS
SPECIAL SERVICE AREA NUMBER 1

A special service area is a contiguous area within a municipality in which special governmental services are provided in addition to the services provided generally throughout the municipality. The Illinois Constitution of 1970 allows a municipality to levy additional real estate taxes in a specific area within its boundaries for the purpose of providing special services to that area that are not available to the entire municipality or to levy taxes to pay the principal and interest on Bonds issued to provide such special services. The cost of the services provided by a special service area are paid from revenues collected from taxes levied or imposed upon taxable property within that special service area. These taxes are extended by the County Clerk and appear as part of the regular real estate tax bill for only that taxable real estate located within the special service area. The corporate authorities of the municipality constitute the governing body of a special service area.

2

The Village of Sauget, Illinois Special Service Area Number 1 was established pursuant to the Village's power as a home rule unit granted in Part (2), paragraph L of Section 6 of Article VII of the Illinois Constitution and in accordance with the provisions of Chapter 120 §§1301 et seq. of the Illinois Revised Statutes, which govern the establishment of a Special Service Area and the levy of taxes to provide for the payment of debt incurred by the _____. Pursuant to the provisions of Illinois law, on January 10, 1985, the President and Board of Trustees of the Village adopted, and the President of the Village approved, an ordinance proposing the establishment of the _____, the authorization of the issuance of up to \$10,000,000 unlimited ad valorem tax bonds to finance the repair and partial rehabilitation of the existing sewage and wastewater-collection system, and proposing the levy of taxes in the _____ to pay for the Bonds proposed to be issued. The ordinance further fixed February 12, 1985 as the date of a public hearing to be held for consideration of the foregoing proposals and provided for the giving of notice of the meeting by publication and by mail, as required by statute.

Timely notice of the hearing was sent by United States mail to the person or persons in whose name the general taxes for the last preceding year were paid on each lot, block, trust or parcel of land lying within the _____. For all property on which taxes for the next preceding year had not been paid, the notice was sent to the person listed on the tax rolls prior to that year as the owner of said property. Notice of the hearing was also published in two (2) local newspapers having a general circulation within the Village.

The public hearing was held on February 12, 1985, and upon final adjournment of that hearing, the President and Board of Trustees enacted, and the President approved, the ordinance creating the Issuer, permitting the Issuer to issue up to \$10,000,000 in Bonds and authorizing the County Clerk of St. Clair County, Illinois to extend taxes against all taxable property within the _____ in an amount sufficient to pay the maturing principal and interest of the Bonds (the "Ordinance"). The Ordinance became effective immediately subject to the right under Illinois law for the Issuer's property owners to file a petition calling for an election during the sixty day period following publication of the Ordinance. No such petition was filed.

The Issuer is governed by the same governing body as the Village. Thus, the Issuer is governed by the Village's President and Board of Trustees. The President and current members of the Board of Trustees are as follows:

<u>Name</u>	<u>Position</u>	<u>Current Term</u>
Paul Sauget	President	1985-89
Carl L. Batson	Trustee	1985-89
Billy Bethea	Trustee	1985-89
Joe Hawkins, Jr.	Trustee	1983-87
Edward T. Holton	Trustee	1985-89
Maurice McDaniel	Trustee	1983-87
Richard A. Sauget	Trustee	1985-87

The President and the six member Board of Trustees, along with the Village Clerk, are all elected at large for four year overlapping terms.

Boundaries of the Issuer

Except for businesses located at Downtown St. Louis-Parks Airport (formerly known as Bi-State Parks Airport), which are not served by the Village sewer system, the Issuer includes all of the commercial and industrial areas of the Village.

Generally included within the boundaries of the Issuer is all of the part of the Village lying west of the east right of way line of the Missouri Pacific Railroad Company (the "Railroad"), which runs north and south through the Village and generally parallel to the Mississippi River. It also includes a tract owned by Mobil Oil Company (a wholly owned subsidiary of Mobil Oil Corporation) which lies east of the Railroad. Excluded from the boundaries of the Issuer is all residential property lying west of the Railroad, including property not

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presently used for residential purposes but zoned for such future use, and, with the exception of the Mobil Oil Company tract noted above, all property lying east of the Railroad.

A more detailed description of the boundaries of the Issuer is set forth in the Ordinance creating the Issuer, and is available from the Issuer or the Village, as is a map showing in more detail the boundaries of the Issuer.

THE VILLAGE

The Village is an Illinois municipal corporation and home rule unit located in southwestern Illinois immediately across the Mississippi River from St. Louis, Missouri. The Issuer is located entirely within the municipal limits of the Village. The Village has a population of approximately 205 residents (1980 census) in an area encompassing approximately 3.5 square miles. The Village primarily consists of several large industrial complexes, all of which are within the boundaries of the Issuer. The principal highway serving the Village is Illinois Route 3, which connects directly north of the Village with Interstate Highways 44, 55, 64, and 70.

Like the Issuer, the Village is governed by a President and six member Board of Trustees elected at large for four-year overlapping terms, with day to day operations managed by the President and a full-time Village Clerk. The Village owns its sewage collection system, which is operated by the Sauget Sanitary Development & Research Association (the "Association"). For further information regarding the System and the Association, see the sections captioned "THE SYSTEM" and "THE ASSOCIATION" herein.

THE SYSTEM

The existing chemical treatment plant of the Village combined wastewater and sewage collection and treatment system (the "System") provides primary treatment of combined stormwater and domestic and industrial wastewater flows. The wastewater treatment facility, which was initially constructed in 1967 and upgraded in the mid-1970s, has a peak capacity of 24 million gallons per day. The System also includes an 800,000 gallon capacity storage lagoon to accommodate combined storm and wastewater overflows.

The System serves a small number of residential customers and treats a relatively insignificant domestic flow. The capacity of the System is almost entirely occupied with flows from major industrial users in the Village. The wastewaters collected through the System are and will be discharged into the Mississippi River after treatment. All

collection and treatment expenses are presently borne primarily by ten industrial customers located within the Village and are allocated on the basis of sewage flow and content. Rates vary based on actual expense levels, with surpluses or deficiencies in one period reflected in subsequent period billings. In addition, while the System is owned by the Village, it is operated by the Association.

During the past several years, there has been an accelerated rate of major sewer breaks and a general deterioration of the System of the Village. As a consequence, the infiltration rate into the system has increased dramatically. This increase in the infiltration of outside water into the System has increased the load on the System. Flooding conditions and an associated high groundwater table in late 1982 and early 1983 appear to be a primary cause of both increased rate of deterioration of the System and associated sewerline breaks, and the increased infiltration rate. Due to the acidic and corrosive characteristics of some of the industrial wastes handled by the System, the poor condition of the existing system and the increased load on the System due to the increased infiltration rate, the potential for an emergency situation has increased significantly. The Village has also concluded that, based on the age of the sewer system and the recent increased necessity of major repairs, the average annual costs required for emergency repairs and rehabilitation would increase significantly over the next few years absent corrective measures.

In response to the concern generated by numerous sewer failures, substantial and expensive repairs to the System and the belief that infiltration into the System had reached unacceptable levels, the President of the Village authorized P. H. Weis & Associates, Inc. and Rhytasel & Associates, Inc. (collectively, the "Engineers") to evaluate and analyze the Village's sewer system on the basis of the problem of infiltration-inflow, the condition of the sewer system (including its repair history and past expenditures for repairs), the proposed rehabilitation and improvements to the System and long-term solutions to the previously described problems.

The Engineers' report outlined a comprehensive project for the correction of the System's problems. Due to the relative nature and size of the required repairs and improvements, the needed repairs and improvements were segmented into 10 phases. Their total cost was estimated to be \$16,973,000.

THE PROJECT

Proceeds of the Bonds shall be used to repair and rehabilitate various parts and sections of the System. The Project will be segmented into phases, which follow in large part the recommendations contained in the Engineering Report prepared by the Engineers. Due to the large flows involved and their continual nature, the Engineering Report recommended that some of the individual phases include construction of by-pass sewers and/or continual by-pass pumping during construction. In addition, the Engineering Report recommended that some permanent by-pass lines be installed to safeguard the future integrity of the System should future repairs become necessary. The Engineering Report identified ten phases of repairs and improvements which the engineers felt the System needed. The Project financed with the Bonds will include four of the ten phases described in the Engineering Report and certain other minor projects not included in the Engineering Report.

The first three phases of the Project (which constitute Phases I, II, and III of the Engineering Report) involve the replacement and rehabilitation of existing sewer lines, the construction of new primary and by-pass sewer lines and the construction and rehabilitation of various interceptor boxes (i.e., locations where several sewer lines connect into one main line) and manholes. The improvements that are needed most immediately to avoid a potential emergency situation are expected to be completed first. The respective estimated costs, including engineering fees and contingency allowances, for these three phases are approximately \$2,291,300, \$1,372,800, and \$983,400, respectively.

The fourth phase of the Project (which constitutes Phase VIII of the Engineering Report) involves transforming a portion of a creek into a stormwater detention basin. The basin will be used for the collection of stormwater bypass flows from the surrounding area until such time as the collected flows can be reintroduced into the System for proper treatment and disposal. The main benefits of Phase IV are the elimination of residential basement backup and reduction of the surcharging effect in sewers downstream. The estimated cost, including engineering fees and contingency allowances, of phase IV is approximately \$2,113,100.

^
The information concerning the four major phases of the Project described above was based on the information and recommendations contained in the Engineering Report. Minor projects include extensions of sewer lines along Mobil Avenue and Monsanto Avenue. The minor projects are expected to cost approximately \$430,000.

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ESTIMATED SOURCES AND USES OF PROCEEDS

The proceeds from the sale of the Bonds, plus interest earned on the proceeds during the period of construction is expected to be as follows:

Proceeds of the Bonds	\$8,500,000
<u>Estimated Interest earned</u>	
<u>during construction (1)</u>	<u>791,874</u>
	<u>\$9,291,874</u>

Such proceeds plus cash on hand plus interest are expected to be expended as follows:

<u>Estimated Cost of Projects</u>	\$7,190,600
<u>Estimated Capitalized Interest (2)</u>	
<u>Estimated Cost of Issuance, Underwriters'</u>	
<u>discount and contingencies (3)</u>	<u>^</u>
	<u>\$9,291,874</u>

- (1) Assumes a construction period of 36 months, a 7% return on investments and 36 equal monthly construction payments beginning on November 1, 1985 with a final payment on October 1, 1988.
- (2) This amount will be used to pay the July 1, 1986 interest payment. ^
- (3) See "UNDERWRITING" for further description of the underwriting discount.

2,116,000
7,190,600 =

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DESCRIPTION OF THE BONDS
AND REDEMPTION PROVISIONS

General

The Bonds will mature on January 1, in the years and in the principal amounts and will bear interest at the rates per annum as set forth on the Cover Page of this Official Statement. Interest will accrue from October 1, 1985 and will be payable on each July 1 and January 1 of each year, with the first interest payment date being July 1, 1986.

The Bonds will be issued as fully registered bonds in the denomination of \$5,000 or any integral multiple thereof. The principal and redemption price of the Bonds will be payable at Centerre Trust Company of St. Louis ("Centerre Trust Company"), St. Louis, Missouri. Interest on the Bonds will be payable by check mailed by Centerre Trust Company to the holders of Bonds at their addresses as shown on the registry books of the Issuer maintained by Centerre Trust Company as Bond Registrar on the 15th day of the month next preceeding the interest payment date.

Redemption Provisions

Bonds maturing on or after January 1, 1996, will be subject to redemption, at the option of the President and Board of Trustees, on any interest payment date on or after January 1, 1995, in whole or in part, in integral multiples of \$5,000, in inverse order of maturity and by lot within a maturity, at the redemption prices (expressed as percentages of the principal amounts of the Bonds to be redeemed) set forth in the following table, plus accrued interest to the date of redemption:

<u>Redemption Dates</u>	<u>Redemption Prices</u>
✓ January 1 or July 1, 1995	103%
✓ January 1 or July 1, 1996	102%
✓ January 1 or July 1, 1997	101.5%
✓ January 1 or July 1, 1998	101%
✓ January 1, 1999 or any interest payment date thereafter	100%

All Bonds called for redemption will cease to bear interest from and after the date specified for redemption, provided that sufficient funds to redeem all Bonds called for redemption are on deposit at the place and at the time indicated in the notice of redemption.

Notice of Redemption

Notice of any redemption shall be sent by registered or certified mail not less than thirty days nor more than sixty days prior to the date fixed for redemption to each registered owner of any of the Bonds to be redeemed at the address then shown on the registry books of the Issuer maintained by Centerre Trust Company as Bond Registrar or at such other address as is furnished in writing by such registered owner to Centerre Trust Company.

SECURITY FOR THE BONDS

The Bonds issued are general obligations of the Issuer, and the full faith and credit of the Issuer is pledged to the payment of the principal of premium, if any, and interest on the Bonds. Under the Bond Ordinance (the "Bond Ordinance") adopted by the Issuer prior to issuance of the Bonds, taxes on all taxable real property located with the boundaries of the Issuer, unlimited as to rate or amount, are required to be extended (that is, computed for billing to property owners) at rates sufficient to produce those amount necessary to pay the principal of and interest on the Bonds when due.

The taxes levied to pay principal of and interest on the Bonds will be for the sole benefit of holders of the Bonds, holders of the Bonds having a lien upon and security interest in all taxes levied to pay the Bonds. Under the Bond Ordinance, those taxes are required to be collected by the County Treasurer of St. Clair County, Illinois (who is the ex-officio Tax Collector) and, upon remittance by the County to the Issuer, are to be deposited with Centerre Trust Company to be held in trust for the holders of the Bonds.

A special fund to be designated "Village of Sauget, Illinois Special Service Area Number I Bond and Interest-Fund of 1985" (the "Bond Fund") will be created by the Issuer. The amounts deposited in the Bond Fund are irrevocably pledged to and shall be used only for the purpose of paying the principal of and interest on the Bonds. Amounts received by the Issuer in respect of taxes levied for the payment of the principal of premium if any, and interest on the Bonds shall be deposited into the Bond Fund.

The proceeds from the sale of the Bonds shall be deposited into the "Village of Sauget, Illinois Special Service Area Number I Project Fund" (the "Project Fund") which will be created by the Issuer. Disbursements from the Project Fund shall be made only for the purposes set forth in the Ordinance and the Bond Ordinance.

Other than (i) the proceeds of taxes levied to pay the Bonds, (ii) the proceeds of the Bonds deposited in the Project Fund (iii) the proceeds of any refunding obligations, (iv) all amounts deposited in the Bond Fund pursuant to the Bond Ordinance, and (v) investment earnings on the foregoing amounts, the Issuer is not expected to have any monies available for payment of the Bonds and interest thereon. Except to pay its bonds, including the Bonds, the Issuer has no taxing power.

The Bonds do not constitute a debt of the Village, the State of Illinois or any political subdivision thereof, other than the Issuer, within the meaning of any constitutional or statutory limitation. Neither the credit nor the taxing power of the Village, the State of Illinois or any political subdivision thereof, other than the Issuer, is, or under any circumstances will be, pledged as security for the payment thereof.

TAXES FOR THE BONDS

At the time the Bonds are sold, the Issuer shall adopt and file with the County Clerk an ordinance providing for the levy of taxes for payment of the Bonds. The ordinance will include a provision for the levy of a direct, continuing annual tax upon all of the taxable property in the Issuer, sufficient, to produce the sums necessary in each year for the payment of interest on the Bonds and for the payment of the principal thereof and premium, if any, thereon, without limitation as to rate or amount and in addition to and in excess of any taxes that may now or hereafter be authorized to be levied. The Issuer also has the right to levy deficiency taxes if tax collections are inadequate.

TAX LEVY AND COLLECTION PROCEDURES

Taxes to pay the principal of and interest on the Bonds will be levied on all taxable property within the Issuer. All tax levies adopted by local governmental bodies in St. Clair County (the "County") having taxing powers (the "taxing units") are filed at the County Clerk's office. The County Clerk computes tax rates for each taxing unit based on the levies filed and the equalized assessed valuation of taxable property subject to the tax levies of that taxing unit, and ensures that the rates for each taxing unit do not exceed those authorized by law. There is no constitutional or statutory limitation, either as to rate or amount, upon the Issuer's authority to levy ad valorem taxes to pay the principal of, premium, if any, and interest on the Bonds. After the tax rates have been determined, the County Clerk then determines the amount of taxes to be billed with respect to

each parcel of real and railroad property by aggregating the tax rates for each taxing unit to which that particular parcel is subject. Those taxes are entered in the books prepared by the County Clerk for the County Collector. Those books are the County Collector's authority for collection of taxes and are used by the County Collector as the basis for billing taxes to property owners.

Property taxes in the County are collected by the County Collector (who is also the County Treasurer). Under the Bond Ordinance, the County Collector will be directed to distribute the Issuer's share of the collections directly to the Village Treasurer who will in turn remit such amounts to Centerre Trust Company for deposit into the Bond Fund. Taxes levied in any year generally become due and payable in the following year. Real estate taxes are by statute payable in two installments during the year. The first installment of real estate taxes, which constitutes one-half of the real estate taxes due, is statutorily payable on June 1. The second installment is statutorily payable on September 1. Taxes on railroad real property used for transportation purposes have also been collected by the St. Clair County Collector on the same dates as those used for payment of real estate taxes.

In recent years, the County has not utilized the dates set by statute for the collection of taxes. The volume of assessment complaints required to be reviewed by the Board of Review, changes in assessment procedures, and delay in the determination of equalized assessed valuations, among other things, can affect the date in which bills are actually mailed and taxes are due. (For example, the last date for timely payment of the second installment of the 1984 taxes in the County is December 2, 1985.) Delinquent taxes accrue interest at the rate of 1 1/2% per month until they are paid or until the property is forfeited. By Illinois statute, the County has a first lien upon real property for the payment of taxes. Delinquent taxes may be collected by judicial foreclosure; however, the time and cost of such proceedings may make the exercising of this authority impractical.

The County Assessor assesses all taxable real property situated in the County, except for railroad real property used for transportation purposes. By statute, the property in the County is to be reassessed every four years, and the assessed valuation is set at 33 1/3% of fair cash value of the property. A reassessment was made in the County during 1984; this was the first reassessment in forty years. Appeals from such assessed valuations are reviewed by the St. Clair County Board of Review and can then be appealed to the Illinois Property Tax Review Board or the Illinois State courts. The assessed valuations are subject to equalization by the Property Tax

Administration Bureau of the Department of Revenue of the State through use of a multiplier, known as the "equalization factor," to make assessed valuations uniform for each county throughout the State. After the equalization factor has been established, the County Assessor multiplies the assessed valuations by the equalization factor to determine the "equalized assessed valuations" and certifies the equalized assessed valuations to the County Clerk. The local tax rates are then applied to the equalized assessed valuations. Railroad real property used for transportation purposes is separately assessed by the Department of Revenue, which certifies the values to the County Clerk. Such values are not subject to revision by the equalization factor.

Various parcels of real estate are exempt from taxation, in whole or in part, due to certain statutory exemptions. In general, school property, property used exclusively for religious purposes or orphanages, property belonging to the State of Illinois, property belonging to any County, Village, City or taxing district, property belonging to institutions of public charity, property of not-for-profit health maintenance organizations and property used for the extinguishment of fires are all exempt from taxation. Further exemptions, partial exemptions and special valuations exist for property held by certain persons, homesteads, certain homestead improvements, rehabilitation projects, farmland, airports and enterprise zones.

The foregoing exemptions notwithstanding, taxes levied to pay the Bonds must nevertheless be extended against taxable property at rates sufficient to produce the amounts necessary to pay the principal and interest of the Bonds when due.

^
**VALUATION OF TAXABLE PROPERTY
WITHIN THE VILLAGE AND THE ISSUER**

[The equalized assessed valuation in 1984 of taxable property located within the boundaries of the Issuer was \$25,834,603. This constituted 97.6% of the equalized assessed valuation of the Village for 1984. While comparable figures for the equalized assessed valuation for the Issuer is not available for prior years, such information for taxable property in the Village is available.]

The following table sets forth information with respect to the valuation of taxable property located within the boundaries of the Village for the five most recent assessment years:

WGK 1484206

<u>Year</u>	<u>Equalized Assessed Valuation (1)</u>	<u>Estimated Full Value (2)</u>
1980	\$23,502,604	\$70,507,812
1981	21,566,219	64,698,657
1982	22,899,319	68,697,957
1983	22,293,795	66,881,395
1984	<u>26,470,799</u>	<u>79,412,397</u>

(1) Source: Office of County Clerk and Audited Financial Statements of the Village.

(2) Based on Equalized Assessed Valuation being 33-1/3% of the Estimated Fair Cash Valuation.

The following table sets forth the top seven taxpayers in the Issuer, the 1984 equalized assessed valuation of their respective properties located within the boundaries of the Issuer, and the percentage of that valuation to the total equalized assessed valuation of property located within the boundaries of the Issuer:

	<u>1984 Equalized Assessed Valuation</u>	<u>% of Total Equalized Assessed Valuation for the Area</u>
Monsanto Company	\$12,214,784	47.3%
Mobil Oil Company	3,016,019	11.7
Cerro Copper Products Co.	2,972,014	11.5
Union Electric Co.	2,104,186	8.1
AMAX Zinc Company, Inc.	1,908,922	7.4
Ethyl Petroleum Additives Inc.	888,633	3.3
Midwest Rubber Reclaiming Co.	<u>512,480</u>	<u>2.0</u>
TOTAL	\$23,617,038	<u>91.3%</u>

Source: Office of County Clerk of St. Clair County, Illinois.

[Several of the taxpayers listed above have appealed their 1984 equalized assessed valuations for 1984. Successful appeals may vary the percentages listed above. This will not affect the gross amount of taxes which would be extended and levied, but only the respective amounts to be paid by each taxpayer.]

For brief descriptions of the top seven taxpayers, see Appendix C.

TAX COLLECTION HISTORY OF THE VILLAGE

As a newly formed entity, the Issuer has not previously levied or extended taxes. However, the equalized assessed valuation property comprising the Issuer constitutes 97.6% of the equalized assessed valuation of the Village, and tax collection information is available for the Village.

The following table sets forth information with respect to taxes levied for the five most recent levy years on real estate and railroad property in the Village, the amounts of such taxes collected during such years, and the respective percentages of taxes collected in relation to taxes levied during the particular years:

<u>Tax Collection Record</u>					
Levy Year	1979	1980	1981	1982	1983
Current Taxes Extended	\$971,587	\$759,769	\$1,298,588	\$888,974	\$1,221,321
Less: Protested Taxes	<u>137,500</u>	<u>82,881</u>	<u>-0-</u>	<u>17,120</u>	<u>-0-</u>
Net Current Taxes	\$834,087	\$676,888	\$1,298,588	\$871,855	\$1,221,321
Current Taxes Collected	\$833,939	\$662,755	\$1,297,720	\$871,855	\$1,201,472
Back Taxes Collected	<u>15,946</u>	<u>3,333</u>	<u>13,109</u>	<u>13,552</u>	<u>22,551</u>
Total Taxes Collected	\$849,885	\$666,088	\$1,310,829	\$885,407	\$1,224,023
Current Taxes Collected as a Percentage of Net Current Taxes	99.99%	97.90%	99.90%	100.00%	98.37%
Total Taxes Collected as a Percentage of Net Current Taxes	101.89%	98.40%	100.94%	101.55%	100.22%

WGK 1484208

OVERLAPPING ENTITIES AND INDEBTEDNESS

Although the Bonds of the Issuer are not obligations of the State of Illinois, St. Clair County or the Village, the property tax base for such obligations and for certain other obligations of the State, County, Village and other units and districts in proximity to and, in some instances, encompassing the Issuer are overlapping. Each of these entities is a separate governmental entity under the laws of the State of Illinois, derives its power and authorities under the laws of the State, has an independent tax levy, and maintains its own financial records and accounts. Property taxes for these overlapping entities are levied upon all taxable property in the Issuer and, in some cases, in other parts of the County as well; each is authorized to issue debt obligations. Non-home rule units of local government are subject to statutory debt limits established by the Illinois General Assembly. Home rule units are not presently subject to such limits.

Financial developments with respect to such other taxing bodies may affect the market for and market prices of the Issuer's obligations. Consequently, factors affecting the financial condition of those taxing bodies should be considered prior to any purchase of the Bonds.

[The principal taxing districts overlapping with the Issuer are the Village of Sauget, Illinois and the Cahokia Unit School District 187. For further information regarding the Village, see the section entitled "THE VILLAGE" herein.

Cahokia Unit School District 187 (the "District") includes the municipalities of Cahokia, Sauget, portions of Alorton, portions of Centreville and certain other surrounding unincorporated areas. The District maintains a system of public schools for grades kindergarten through 12th grade. The District is governed by a seven (7) member board whose members are elected to four (4) year staggered terms. General responsibilities for administration of the school system operated by the District rest with the Superintendent of Schools, subject to board approval. The current superintendent has been with the school district for twenty-seven (27) years.

The District is currently taxing at the maximum rate allowable under current law, and any increase in taxes would require approval by the voters in a referendum for such purpose.]

The following table sets forth the Pro Forma Direct and Overlapping Debt applicable to the Issuer and all of the entities whose tax bases overlap that of the Issuer, as well as selected pro forma debt statistics, assuming the issuance of \$8.5 million aggregate principal amount of the Bonds offered

hereby. Such information has been obtained from the Office of the County Clerk and neither the Issuer nor the Underwriters have independently verified such information and do not warrant its accuracy or completeness. Except as noted, information with respect to the outstanding debt of such major entities does not include outstanding revenue obligations or tax anticipation notes.

PRO FORMA DIRECT AND OVERLAPPING DEBT

	<u>Outstanding Bonds</u>	<u>Percent Attributable To the Issuer</u>	<u>Issuer's Direct and Overlapping Debt</u>
The Bonds	\$ 8,500,000	100.0000%	\$ 8,500,000
Village of Sauget	5,385,000	97.5966	5,255,577
St. Clair County	300,000	2.3986	7,196
St. Clair County Building Commission*	6,495,000	2.3986	155,789
Cahokia Unit School District 187	3,219,000	26.6350	857,381
Belleville Area College District 522	<u>2,400,000</u>	1.3503	<u>32,407</u>
TOTAL	\$26,299,000		\$14,808,350

* Technically these are revenue bonds, not general obligation bonds. However they are shown here because they are to be paid out of rentals payable annually by the County of St. Clair, but to be derived from ad valorem taxes.

Source: Office of County Clerk of St. Clair County, Illinois

SELECTED PRO FORMA DEBT STATISTICS

[The following table sets forth certain pro forma statistics assuming the issuance of the Bonds and 1984 Equalized Assessed Valuations:

Equalized Assessed Valuation of the Area	\$25,834,603
Estimated Full Valuation of the Area	\$77,503,809
Net Direct Bonded Debt	\$13,755,577
Net Direct and Overlapping Bonded Debt	\$14,808,350

WGK 1484210

Net Direct Bonded Debt as a percentage of Equalized Assessed Valuation	53.24%
Net Direct Bonded Debt as a percentage of Estimated Full Valuation	17.75%
Net Direct Bonded and Overlapping Debt as a percentage of Equalized Assessed Valuation	57.32%
Net Direct Bonded and Overlapping Debt as a percentage of Estimated Full Valuation	19.11%
Estimated tax rate per \$100 Equalized Assessed Valuation for the Area after issuance of the Bonds assuming 1984 Equalized Assessed Valuations]	

TAX RATES OF THE VILLAGE

The tax rates per \$100 of equalized assessed valuation of the Village, for the five most recent tax years are as follows;

	[1980	1981	1982*	1983*	1984*
General	\$0.4000	\$0.4000	\$0.8200	\$0.8200	\$0.8200
Bond & Interest	2.2248	4.9530	2.7978	4.3779	3.4693
Audit	0.0200	0.0200	—	—	—
Police Protection	0.1500	0.1500	—	—	—
Public Liability	0.0600	0.0965	—	—	—
Retirement	0.2279	0.2519	0.2643	0.2804	0.2475
Retirement Deficiency	—	—	—	—	0.2478**
Total	\$3.2327	\$6.0214	\$3.8821	\$5.4783	\$4.7846

* The Village combined Audit, Police Protection, Fire Protection and Public Liability into General.

** To be levied for only one year to correct a deficiency.

Source: Office of County Clerk and Audited Financial Statements of the Village of Sauget]

WGW 1484211

THE REGIONAL SYSTEM

The Village has been designated by the Illinois Environmental Protection Agency as the "lead agency" to plan, design, construct, finance and operate a regional wastewater treatment system (the "Regional System") which is under construction and should be in operation late in 1985 or early in 1986. The Regional System will constitute an integral part of the Village's existing system and will be operated by the Association as a separate division of the System.

The Regional System will primarily consist of a wastewater treatment plant having a capacity of 27 million gallons per day, the necessary pump stations and force mains needed to integrate the Regional System with the existing water collection and distribution system presently serving parties to the Regional Agreement with existing water systems and an outfall sewer and pumping station to the Mississippi River. The wastewater treatment plant has been designed to provide primary and secondary treatment and to accommodate a peak hourly flow equivalent to 52 million gallons per day.

The Village has executed a separate Regional Agreement with the Illinois local government units of the City of East St. Louis, the Village of Cahokia and the Commonfields of Cahokia Public Water District, all of which are located in St. Clair County, Illinois.

The Regional Agreement provides, among other things, that the Regional System will collect, treat and dispose of all wastewater discharged by each of the parties to the Agreement, and in connection therewith, each user will pay the duly established charges imposed by the Village in connection therewith. ^

The Regional System will be operated by the Village, through the Association, as a separate division of the System. To provide for all costs of operating and maintaining the Regional System and to secure the payment of all debt service and reserve requirements for the Village of Sauget Regional Wastewater Treatment Revenue Bonds, Series 1982, which were issued to finance parts of the Regional System, the Village has entered into long-term contracts with Monsanto Company, Edwin Cooper, Inc., Pfizer, Inc., Cerro Copper Products Company (the "Companies"), the City of East St. Louis, the Village of Cahokia and the Commonfields of Cahokia Public Water District for wastewater collection and treatment services to be provided by the Regional System. The payments specified to be made by the Companies under the contracts are to be sufficient, in the aggregate, together with all other revenues derived by the Village from the operation of the Regional System, to provide

for all operations and maintenance costs thereof and to pay, when due, all principal and interest related to the Series 1982 Regional Wastewater Treatment Revenue Bonds.

The Series 1982 Bonds do not constitute a debt of the Issuer, the Village, the County, the State of Illinois or any political subdivision thereof within the meaning of any constitutional or statutory limitation. Neither the credit nor the taxing power of the Village or the Issuer is, or under any circumstances will be, pledged as security for the payments therefor.

THE ASSOCIATION

Sauget Sanitary Development & Research Association (the "Association") is responsible for the operation of the Village's sewer system and initial wastewater treatment plant and will be responsible for the operational aspects of the improvements to the System financed with the proceeds of the Bonds. The Association is a Delaware not-for-profit corporation which is authorized to do business in Illinois. Its membership consists of the five largest industrial concerns in the Village: AMAX Zinc Company, Inc., Cerro Copper Products Co. (formerly Cerro Corporation), Edwin Cooper, Inc., Midwest Rubber Reclaiming Company and Monsanto Company. The Board of Directors of the Association consists of ten members appointed annually. Each member of the Association is represented by one director on the Board, except Monsanto Company which has five. In addition, the Village President is a Board member.

The Association was incorporated in 1965 by representatives of the larger industrial concerns in the Village. Its purposes, among others, are to conduct technical studies and to provide and render services, advice and assistance with respect to the development, construction, maintenance, use and operation of sewage facilities for the effectual treatment and disposal of sewage in the Village. Due to the Association's access to sources of research and the knowledge and experience of its directors with respect to sewage treatment and disposal matters, the Village entered into a contract in 1966 providing for the Association to operate the Village's initial wastewater treatment plant. That contract has since been expanded to include the operation of the Village's existing physical/chemical plant and will be further expanded to include the operation of the Regional System.

The Association operates the Village's existing physical/chemical wastewater treatment plant at cost and will similarly operate the Regional System wastewater treatment plant.

INVESTMENT CONSIDERATIONS

This section is intended to present a brief summary of some investment considerations and risk factors which potential purchasers of the Bonds should consider in determining whether to purchase the Bonds. This summary is not intended to be complete or comprehensive.

The repayment of principal and interest on the Bonds is dependent on the collection of taxes levied by the Issuer in amounts sufficient to meet the debt service requirements on the Bonds. The collection of those taxes depends in large part on the payment by the major property owners located within the boundaries of the Issuer of taxes levied by the Issuer. Certain information concerning these property owners is contained in Appendix C and a description of the remedies of the Issuer in the event of nonpayment of taxes is contained in the section entitled "Tax Levy and Collection Procedures". No assurance can be given that the Country, on behalf of Issuer, will be able to collect the taxes levied or that such collections, if made, will be made in a timely fashion.

In the event a taxpayer fails to pay his tax bill, the County may foreclose on property which is the subject of the bill. However, in the event the forfeited property sells for an amount less than the tax levied on the property, the Issuer may be unable to meet the debt service requirements on the Bonds or may be unable to meet the debt service requirements on the Bonds in a timely fashion.

The taxes to be levied by the Issuer will be paid by relatively few taxpayers. The top seven taxpayers own 91.3% of the total current equalized assessed valuation of taxable property in the Issuer, and Monsanto Company currently accounts for 47.3% of such property. To the extent that one or more of these major taxpayers would be unwilling or unable to pay their tax bills in a timely manner, there would be a significant impact on the Issuer's ability to meet its debt service obligations on the Bonds in a timely fashion. Consequently, the financial ability of the major taxpayers to pay their taxes should be considered by potential purchasers of the Bonds.

The Bonds are unrated. This may make the Bonds an unsuitable investment for many investors, and as such, may affect the marketability of the Bonds. It is not anticipated that the Bonds will be actively traded in any secondary market, although the underwriter intends, but is not obligated, to make a market in the Bonds. These factors may affect the liquidity of an investor's investment in the Bonds.

WGK 1484214

The Bonds do not constitute an obligation of the Village, The County, the State of Illinois or any political subdivision thereof, other than the Issuer.

FEDERAL BANKRUPTCY

[Chapter 9 of the Federal Bankruptcy Code permits any political subdivision or agency of a state to file a petition for relief under the provisions of that law if the subdivision or agency is authorized to do so by state law. Neither the Village nor the Issuer is so authorized under present Illinois law. No assurance can be given that Illinois law will not be altered at a future date to permit such a filing.

Under present provisions of the Federal Bankruptcy Code, any plan to adjust the debts of any political subdivision or agency would become effective only upon approval of the bankruptcy court after required approvals from any creditors of that subdivision or agency had been obtained. The filing of such a petition with respect to the Issuer, as with other financial developments with respect to the Issuer, might affect the market for and market prices of the Bonds.]

LITIGATION

There is no action, proceeding or litigation pending or, to the knowledge of the Village or the Issuer threatened, in any way contesting or affecting the issuance, sale, execution or delivery of the Bonds or the validity or enforceability of the Bonds or the security therefor, or the legal existence or powers of the Village or the Issuer, or seeking to restrain or enjoin the issuance, execution, sale or delivery of the Bonds. Upon delivery of the Bonds, the Village and the Issuer will furnish a certificate to the effect that no such litigation is then pending or, to its knowledge, threatened.

NO RATING ON THE BONDS

The Bonds have not received a rating from Standard & Poor's Corporation, Moody's Investors Service, Inc. or any other bond rating service, and it is not anticipated that any such ratings will be issued.

WGK 1484215

UNDERWRITING

The Underwriters have jointly severally agreed, subject to certain conditions, to use their best efforts to

offer and sell the Bonds of the Issuer to the public at a price not in excess of the initial public offering price, plus accrued interest, set forth on the Cover Page of this Official Statement. Upon the sale of the Bonds of the Issuer, as described above, the Underwriters will receive an aggregate underwriters' discount of 3 (\$425,000) from the initial public offering price set forth on the Cover Page of this Official Statement.

TAX EXEMPTION

In the opinion of Bond Counsel, interest on the Bonds is exempt from Federal income taxes under present law. Interest on the Bonds is not exempt from Illinois income taxes.

CERTAIN LEGAL MATTERS

It is anticipated that at the closing, Chapman & Cutler, Chicago, Illinois, Bond Counsel, will deliver its approving legal opinion. The proposed form of such opinion is attached as Appendix C to this Official Statement, and delivery thereof in substantially such form is a condition to closing. A copy of such opinion will be printed on the Bonds.

Certain legal matters will be passed upon for the Underwriters by Bryan, Cave, McPheeters & McRoberts, St. Louis, Missouri, as counsel to the Underwriters.

Certain legal matters with respect to the Village and Issuer will be passed upon by Harold G. Baker, Belleville, Illinois, Counsel to the Issuer and Village Attorney of the Village.

OTHER MATTERS

Any statements made in this Official Statement involving matters of opinion, estimates or projections, whether or not expressly so stated, are set forth as such and not as representations of fact, and no representations are made that any of such estimates or projections will be realized.

Information in this Official Statement relating to the Village and the Issuer has been obtained from the Village and information in this Official Statement relating to governmental bodies other than the Village and the Issuer has been obtained from other sources which are believed to be reliable; such information is believed to be correct but is not warranted as such by the Underwriters or the Issuer.

The references herein to the Ordinance and other documents are brief summaries of certain provisions thereof.

Such summaries do not purport to be complete and reference is made to such documents and instruments, the forms of which are available from the Issuer, for full and complete statements of the provisions of those documents and instruments.

AUTHORIZATION

The execution and delivery of this Official Statement have been duly authorized by the Issuer.

THE VILLAGE OF SAUGET, ILLINOIS
SPECIAL SERVICE AREA NUMBER 1

By Paul Sauget
President

WGK 1484217

^

Brief Descriptions of Top Seven Taxpayers

Appendix AA

Monsanto Company

G

Monsanto Company ("Monsanto") is a multi-national corporation engaged directly and through subsidiaries in the manufacture and sale of a widely diversified line of products in the following principal business segments: Chemical Intermediates, which includes intermediate chemicals such as styrene and acrylonitrile as well as Monsanto's oil and gas exploration and production activities; Industrial Chemicals, which includes detergent intermediates, phosphate derivatives, specialty and nutrition chemicals, rubber chemicals, plasticizers and silicon; Plastics & Resins, which includes polystyrene, ABS, SAN and nylon thermoplastics and polyvinyl butyral sheet used in laminated glass; Textiles, which includes nylon and acrylic fibers; Agricultural Chemicals, which includes herbicides and insecticides; and Fisher Controls, which manufactures instrumentation equipment, control valves, and regulators. The principal products manufactured at the W.C. Krummrich Plant in the Village are detergent builders, and surfactant and industrial phosphates for the pharmaceutical and personal products market, and nitrochlorobenzene derivatives for use in chemical and hydrocarbons. ~~Monsanto's products are derived principally from petroleum and natural gas, along with other raw materials, and are marketed as raw materials and intermediate products, and also are converted by Monsanto into finished products.~~ close

Intermediates

Monsanto is currently building an \$18 million rubber chemical facility at its W.C. Krummrich Plant in the Village. It is also investing approximately \$12 million in sewer, electrical and computerization improvements at this plant. These new projects are expected to be completed in 1986.

Monsanto Company was incorporated in 1933 under Delaware law and is the successor to a Missouri corporation, Monsanto Chemical Works, organized in 1901. Monsanto has been operating the plant in the region which is now the Village since 1917.

Monsanto Company's principal executive offices are located at 800 North Lindbergh Boulevard, St. Louis, Missouri 63167.

Monsanto Company is subject to the informational reporting requirements of the Securities Exchange Act of 1934 and will provide without charge to each person to whom this Official Statement is delivered, on the written request of such person, a copy of Monsanto Company's Annual Report on Form 10-K for the fiscal year ended December 31, 1984, and its Quarterly Report on Form 10-Q for the quarter ended March 31, 1985 filed

pursuant to Section 13 of the Securities Exchange Act of 1934. Monsanto recently acquired G.D. Searle and Company at a cost of approximately \$2.7 billion.

Cerro Copper Products Co.

Cerro Copper Products Co., ("Cerro"), a Delaware Corporation and member of the Marmon Group of Companies, operates a copper refinery and tube mill in the Village.

Cerro's 50,000 ton per year refinery operates on high-grade copper scrap only and is unique in its abilities to produce electrolytic copper cathode of the highest quality from recycled material. The tube mill has employed innovative technology in its production methods.

The electrolytic refinery started operations in 1928 and tube making operations began in 1940. The company occupies a 60 acre tract fronting on Illinois Route 3 and is well provided by rail service and all major utilities, including direct pipeline service of natural gas.

Cerro's tube manufacturing plant in the Village is the largest in the nation and, in addition to producing a significant percentage of all the general plumbing tube in this country, also supplies several smaller tube mills with base stock, called redraw tube. An additional plant owned by the company operates in Shelbina, Missouri.

Its present employment level is approximately 813 hourly and salaried people.

The mailing address for Cerro Copper Products Co. is P.O. Box 681, East St. Louis, Illinois 62202. Inquiries regarding Cerro should be directed to that address.

AMAX Zinc Company, Inc.

AMAX Zinc Company, Inc., ("AMAX") a wholly-owned subsidiary of AMAX, Inc., has operated an electricity zinc plant in the Village since 1972. The plant's current annual capacity is approximately 80,000 tons of zinc. In addition, by-product silver, cadmium and sulfuric acid are produced.

The bulk of AMAX's zinc sales are distributed between the galvanizing and die-casting markets in approximately a two-to-one ratio. In addition, AMAX makes periodic sales to the U.S. Mint for production of the U.S. penny. During 1983 approximately 11% of AMAX's zinc sales were for the U.S. Mint penny production. Current employment at the plant is approximately 370.

WGK 1484219

The mailing address for AMAX Zinc Company, Inc., is P.O. Box 2347, East St. Louis, Illinois 62202. Inquiries regarding AMAX should be directed to that address.

Ethyl Petroleum Additives, Inc. (formerly Edwin Cooper, Inc.)

Ethyl Petroleum Additives, Inc., ("EPAD") is a division of Ethyl Corporation, a group of companies with diversified business interests involving petroleum and industrial chemicals, plastics, aluminum, and energy related activities in coal, oil, and natural gas.

EPAD specializes in the research, development and production of chemical additives for incorporation in the products of the oil industry, and it is best known for the development and production of lubricants for use in gasoline and diesel engines and transmission systems, as well as for the manufacture of industrial lubricants. EPAD is currently the sixth largest producer of additives in the world.

The activities of EPAD in the chemical additives field extend from research in new products through practical application trials and production on an industrial scale. EPAD specializes in products to meet customers' specific requirements. Chemical additives, lubricants and other products manufactured by EPAD are marketed under the trade name "Hitec".

EPAD employs approximately 700 employees worldwide, including a total of approximately 228 employees at the Village manufacturing plant, one of two production facilities owned and operated by EPAD. This manufacturing plant, which was acquired in 1971, houses production, shipping, warehousing and administrative facilities on a 36-acre site. Growth at the Village plant has been dramatic over the last ten years, with employment increasing from 120 employees to its present level. In addition, over the last ten years over 40 million dollars of new capital has been spent for the addition of new production facilities, warehouses, laboratories, and general plant renewal.

EPAD was incorporated in 1969 under Delaware law and its principal executive offices are located at 20 South Fourth, St. Louis, Missouri 63101-1886. Inquiries regarding EPAD should be directed to that address.

Midwest Rubber Reclaiming Co.

Midwest Rubber Reclaiming Co., ("Midwest") a wholly-owned subsidiary of GIT Industries, produces reclaimed rubber from tires, tubes, and natural cured scrap. Reclaimed rubber is used in new molded rubber products such as tires, tubes, pipe insulation, floor mats and adhesives.

Midwest has been located in the Village since 1918. Midwest produces more than 40,000,000 pounds of reclaimed rubber annually, which qualifies it as one of the largest rubber reclaimers in the world. During the past ten-years Midwest has made capital investments of \$5,000,000 to its facilities. Current employment is approximately 161.

Midwest[^] was incorporated in 1946 under Delaware law, and its principal offices are located in Sauget, Illinois.

The mailing address for Midwest Rubber Reclaiming Co. is, P.O. Box 2349, East St. Louis, Illinois 62202 Inquiries regarding Midwest should be directed to that address.

MOBIL OIL CORPORATION

[Mobil Oil Corporation ("Mobil"), incorporated in the state of New York in 1882, conducts an integrated petroleum business in the United States. It has many affiliates throughout the world - separately incorporated and independently operated - that are engaged in petroleum operations. Mobil and some of its affiliates also engage in the manufacture and marketing of chemical products.

Mobil and its consolidated subsidiaries have business interests in over 100 countries and employed approximately 71,300 people worldwide at December 31, 1984. The petroleum industry is highly competitive. It also competes with other industries in supplying energy, fuels, and other products. The chemical industry, in which Mobil has some operations, is also highly competitive.

Mobil Oil Company, a wholly owned subsidiary of Mobil Oil Corporation, property within the boundaries of the Issuer, which consists primarily of fuel storage and handling facilities. The Village facility receives various fuels in bulk from river barges and other sources and stores the fuels until such time as they are loaded into trucks or other barges for further distribution. Mobil Oil Company's facility in the Village has approximately twenty four (24) employees.

Mobil Oil Corporation, the parent corporation of Mobil Oil Company which operates the facility in the Village, is subject to the informational reporting requirements of the Securities Exchange Act of 1934 and information regarding Mobil Oil Corporation, including Mobil Oil Corporation's Annual Report on Form 10-K for the fiscal year ended December 31, 1984 and its most recent Quarterly Report on Form 10-Q filed pursuant to Section 13 of the Securities Exchange Act of 1934,

may be obtained from the Securities Exchange Commission (the "SEC"). Separate information regarding Mobil Oil Company is not available from the SEC.]

UNION ELECTRIC CO.]

[Text to come]

Appendix B

Estimated

Debt Service On The Bonds

<u>Year</u>	<u>Principal</u>	<u>Interest(1)</u>	<u>Total Debt Service</u>
1986		^	^
1987	75,000		
1988	100,000		
1989	125,000		
1990	125,000		
1991	150,000		
1992	150,000		
1993	475,000		
1994	525,000		
1995	650,000		
1996	750,000		
1997	825,000		
1998	1,225,000		
1999	1,575,000		
2000	<u>1,750,000</u>		
	8,500,000		

(1) Based on an assumed rate of ^%.

Appendix AC

[Proposed Legal Opinion of Bond Counsel]

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WGK 1484224

-30-

HAROLD G. BAKER, JR.
ATTORNEY AT LAW

November 1, 1989

The Honorable Paul Sauget, Mayor
Village of Sauget
2897 Falling Springs Road
Sauget, Illinois 62206

Dear Paul:

You have asked me to determine what contractual rights, if any, the Village has to the 36" sewer line crossing from Cerro's side of the Alton & Southern Railroad, under the railroad and then terminating at a manhole on Monsanto's property.

Enclosed is my first draft of the report which isn't intended to be complete due to missing drawings. I've asked Max therefor.

provided to Jay on 11/6/89

I am sending copies of this initial draft to Max and to P.H. for their comments.

Cordially yours,

Harold G. Baker, Jr. /gmt
HAROLD G. BAKER, JR.

cc: ✓ Max McCombs
P.H. Weis
HGBjr/gmt

WGK 1484225

Village looking for a way to help Cerro solve their Dead Creek problem. Don't want to combine wastes so that discrete samples are not possible. Are we connected to 36/30? Do we need for hydraulic overload? Condition of these sewers -- do we know if they can even be used?

56 SOUTH 65TH STREET, BELLEVILLE, ILLINOIS 62223 / (618) 397-6444

November 1, 1989

The Honorable Paul Sauget, Mayor
Village of Sauget
2897 Falling Springs Road
Sauget, Illinois 62206

Dear Paul:

Some of the wastewater from dischargers in the Village is collected in two (2) separate manholes (Manholes A) on Cerro's property just south of the Alton & Southern RR (A&S RR) mainline near Dead Creek west of new Falling Springs Road (formerly Monsanto Avenue and before that Lower Cahokia Road); is then transmitted northerly under the railroad in a 36 inch pipe and an 18 inch pipe to manholes on Monsanto's property (Manholes B); and is then transmitted westwardly by 36/30 inch and 24 inch pipes to another manhole on Monsanto's property just east of Mississippi Avenue (Manhole C). (By the way, are we certain that one of the pipes under the A&S RR is an 18 incher? Some of the documents subsequently discussed talk of a 24".)

WHO OWNS,
WHERE DOES
OWNERSHIP
BEGIN AND
END?

At one time, some of Monsanto's wastewater was discharged into Manholes B and then transmitted to Manhole C in the 36/30 and/or 24 inch pipes. Within the last 10 years, Monsanto has built a parallel 42 inch line which collects some of its wastewaters and transmits them to Manhole C. We are advised and need to confirm that Monsanto no longer empties into Manholes B and no longer uses, by cross

*
please
respond

WGK 1484226

connection or otherwise, either the 36/30 or the 24 inch lines (except by back flow from Manhole C).

You have inquired about the contractual rights of the Village to use the 36 inch line under the railroad, the manhole into which it discharges (Manhole B) and the 36/30 and 24 inch pipes. (While the 18 inch pipe under the railroad is extremely important, it is not the subject of your inquiry or of this reply.)

Monsanto Drawing D-11632. Monsanto has furnished me an incomplete copy of this drawing.

It shows, among other things, two (2) separate easements. Each runs from a point (Manholes B) in or near Dead Creek on Monsanto's premises, thence westerly towards Mississippi Avenue (Route 3). One is 15 feet wide and the other 12 feet wide.

The easements form a Y with the stem pointing toward Mississippi Avenue. They start out separately several feet apart, but some unstated distance to the west join and then continue to run westwardly immediately adjacent to each other (a combined width of 27').

The manholes (Manholes B) at each top of the Y are joined together.

A note on the drawing states that the 15 foot wide easement was created by the document dated June 17, 1941.

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A further note states that the 12 foot wide easement was created by the document dated November 16, 1948.

Before 1924. The A&S RR crossed Dead Creek on a trestle at a point approximately 350 feet southwesterly of Lower Cahokia Road (now Falling Springs Road).

August 20, 1924. Agreement between A&S RR and Monsanto. A&S RR desires to replace that trestle with an embankment and to construct a new 36 inch pipe under its right-of-way. Monsanto discharges wastewater into Dead Creek through a second 36 inch pipe "a short distance" from the trestle and desires to connect its said existing pipe with the A&S RR's new pipe. Drawing B-548-RA-1 attached to original but not my copy.

1932. 24" trunk line constructed by the Village. No agreement found to date.

April 27, 1932. The Village vacated old Falling Springs Road as it traversed Monsanto's premises (Ordinance No. 53). Old Falling Springs comes into play in the legal description(s) used in the June 17, 1941 easement. W GK 1484228

April 7, 1939. Agreement between Monsanto and Village. Village desires to construct an "overflow" to allow the "discharge of surplus surface waters into Dead Creek through" the existing 36 inch east iron pipe under the A&S RR "through which the waters of Dead Creek flow". (Apparently and unless water in Dead Creek flowed from south

to north, Monsanto had not yet filled in Dead Creek as it traversed its premises.) Such construction requires the installation of a manhole and 36 inch sewer line on Monsanto's premises. Monsanto grants the Village a 10 foot wide strip running southerly 40 feet from the existing 24 inch line to the A&S RR. (Although a new manhole is discussed in the preambles ("Whereas" clauses), it is not mentioned in the actual text of the agreement.)

Date

May 23, 1989. Agreement among the A&S RR, Monsanto and Village. Monsanto is relieved of all its duties under the 8/20/24 agreement and the Village assumes them. Village is given the right to extend the 36 inch line northward across the A&S RR for the "purpose of connecting the pipe line with sewer system of Village". Drawing B-1426-RA-2 (?) is attached.

That drawing shows another sewer line running NW from intersection of Little and Falling Springs (SA Route #10); turning north and crossing under A&S RR; and going to a manhole on the "existing 24" dia. sewer pipe line" of the Village; and running thence westwardly toward Mississippi Avenue.

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The drawing also shows the proposed 36" extension from a manhole on 24" line southerly (and parallel to the 24" crossing of the A&S) to the A&S' existing 36" cast iron pipe. This 36" line ends "in mid air" in the north end of Cerro's part of Dead Creek.

June 17, 1941; December 7, 1945; and November 16, 1948. All are easements granted to the Village by Monsanto.

All three have explanatory drawings attached to the originals but not to my copies. Without those drawings, it is impossible to state their purposes.

June 17, 1941. The document states: "This instrument is a confirmation of authorization previously given" to the Village. Presumably, it retroactively provides a right-of-way for the 24" line constructed in 1932.

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2/16/90

Steve —

Looks like we will be OK
unless we get a "gully
washer". We still need a plan
for quickly flooding the
construction.

TO: Bob Roddy
FROM: John Lotzy
DATE: February 13, 1990
SUBJECT: Sewer Capacity

=====Max

On 2/8/90 a meeting was held to discuss the progress and plans for the sewer system repairs and modifications being done by Weis Engineering. The question was raised as to whether the one 36" sewer line will be adequate for storm periods during the nine months the repairs are in progress. The meeting attendees requested flow data from the P-Chem plant to aid in determining the probability of a sewer line backup.

The peak daily flow recorded from 1981 - 1989 is 26.0 mgd. However, peak hourly flow data is only available from 1987 - 1989. The peak hourly flow for this period was recorded on 7/6/87. On that day, lift pumps 1, 2, and 3 ran for a period of 3.8 hours simultaneously; #1 pump to the process and #2 and #3 pumps to the storage lagoons. Assuming maximum pumping capacity at 9500 gpm, this equates to 28,500 gpm peak hourly flow. The plant rain gauge showed 2.6 inches recorded for 7/16/87, and total wastewater (daily) flow was 18.8 mgd. On 3/20/89, 3.00 inches of rain was recorded, and three lift pumps were ran for a period of 3.6 hours. Total flow for that day was 16.1 mgd. There were five other occurrences of three lift pumps in operation, all for less than one hour duration. Data is summarized on the attached table. Also included is a summary of high rain days (over one inch) since 1987.

According to Arnold Czechowitz, the by-pass line to the South side of the bay was closed February 13, 1989. Therefore, we have been running with one 36" line to the plant since that time. Since there was a high flow situation on March 20, 1989, there were apparently no major effects from that occurrence.

If I can be of further assistance, or you have any questions concerning this data, please contact me.

cc: Max McComb - Monsanto
Steve Smith - Monsanto
Ray Erhard - Big River
Dave Adams - Ethyl Petroleum
George Schillinger - General Manager
Paul Tandler - Cerro Copper
Paul Weis - P. H. Weis & Associates

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HIGH FLOW OCCURRENCES (3 PUMPS RUNNING)

<u>DATE</u>	<u>FLOW (mgd)</u>	<u>RAIN (inches)</u>
7/6/87	18.8	2.60
6/30/87	14.4	3.00
7/4/87	11.8	1.40
7/7/87	14.4	1.30
8/8/87	14.0	2.50
8/26/87	15.0	2.60
3/20/89	16.1	3.00

HIGH RAIN DAYS SINCE 1987

<u>DATE</u>	<u>FLOW (mgd)</u>	<u>RAIN (inches)</u>
1/31/88	11.4	2.25
1/19/88	10.6	2.3
1/5/89	9.6	1.4
3/20/89	16.1	3.0

WGK 1484232

SYNOPSIS OF VILLAGE OF SAUGET SEWER STATUS
PRESENTATION TO THE ASSOCIATION

MEETING DATES: January 19, 1990, 11:00 A.M. and
February 8, 1990, 3:00 P.M.

History:

A brief history of the sewer system over the years was presented. In the early eighties, many sinkholes and settlements occurred resulting from infiltration into the sewer system due to deterioration of the sewer system. These conditions became evidenced as a result of storm water and high ground water table conditions. In this time frame, basement flooding in the residential areas occurred with a high degree of frequency. A storm water report for the residential area was prepared by PHWA utilizing a part of the park for a detention pond. This detention basin was later revised eliminating detention in the park with the utilization of a detention basin in Dead Creek. It became apparent that the required sewer repairs were substantial and would be very costly and that consideration should be given to obtaining Grant money, if possible. In order to be eligible for Grant consideration, an "Addendum to Facilities Plan and Infiltration-Inflow Analysis" was prepared by PHWA and Rhutasel. The report outlined past sewer system repairs and recommended improvements. The past sewer repair map and recommended improvement map were presented, as well as the list of repairs and their recommended costs. A description and original cost estimate for the improvements were also presented (a copy of both tables are included herein for reference). Grant money was applied for but none available at the time. \$8.5 million of bonds were issued and construction plans were prepared for Phase I, II, and IIIA of the listed recommended improvements with an estimated cost of \$4.7 million. Low bid received was approximately \$5.1 million. The Sauget Sanitary Development and Research Association recommended not to proceed with the work as bid on the basis that the bid was too high and that the outlined improvements in total were not necessary due to the reduction of industry's effluent. An application for a Build Illinois Grant was prepared by the Association with the assistance of PHWA and \$1.5 million Build Illinois Grant was awarded to the Village of Sauget.

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Revised plans for the Terminal Railroad repair work was produced by PHWA. The Association hired a construction manager to do the work by hiring various subcontractors on a time and material basis. At approximately 25% into the project the progress of the work was not on time. The quality of the work was deficient and

Synopsis of Sewer Status
Village of Sauget
Page Two of Three

serious safety problems were evidenced. Upon observing safety hazards, PHWA, through direct contact with Keeley Bros. Contracting Company and the Village of Sauget, immediately had these hazards corrected. The Village recommended Keeley Bros. as the General Contractor to complete the project under an emergency clause on a time and material basis and a percentage fee. The original plans and current plans that are being utilized were presented. The present status of Phase I, II, and IIIA modified project is approximately 70% complete with the Northern portion of the project 100% complete and flow diverted through the Northern side and repairs commencing on the Southern portion of the project. The amount of construction completed at the time of this meeting, including dewatering cost, is approximately \$2.8 million.

It was presented that the first three phases of some ten phases is well underway in their completion but that the other repair and improvements as outlined needs attention, however, these repairs and improvements do need re-evaluation. The Mayor and Village realize that storm water is still a problem within the residential area and that the storm water did substantially effect the existing combined sewer system. PHWA was authorized to prepare a storm water study for the entire Village of Sauget. It was presented that this study is underway and would take approximately 6 months for completion. It was also presented that the need for said study is evidenced by several unfavorable conditions as follows:

1. Overflow of combined storm water and sanitary sewage into Dead Creek (Dead Creek detention be eliminated by Cerro).
2. Residential sewer backup still exists.
3. Temporary pumping of combined wastes into open fields.
4. The cost of additional storm water lagoons at the P-Chem Plant.
5. The cost of unnecessary treatment of storm water.
6. With the absence of Dead Creek detention, the effect of sewer backup throughout the Village and industries due to the high intensity storms.

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Synopsis of Sewer Status
Village of Sauget
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Lastly, PHWA asked for the cooperation of all the industries in order to properly complete the storm water study and that a representative of each industry be established for coordination purposes. This concluded the presentation.

Respectfully submitted,

P. H. WEIS & ASSOCIATES, INC.
ENGINEERS/ARCHITECTS/PLANNERS
12231 Manchester Road
St. Louis, Missouri 63131
March 5, 1990

PHW:de

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TABLE 2
SEWER SYSTEM
REPAIR & IMPROVEMENTS
(1974-1984)

<u>ITEM NO.</u>	<u>DATE</u>	<u>GENERAL DESCRIPTION</u>	<u>TOTAL COST</u>
1	Sept. 1974	Manhole Repairs (Monsanto Ave.)	\$ 232,000
2	Aug. 1975	Diversion Box Repairs (Rt. 3, So. Monsanto Ave.)	563,000
3	Aug. 1976	Terminal Railroad Sewer Repairs (Phase I)	331,000
4	Aug. 1977	Emergency Repairs to Interceptor Box (Rt. 3)	17,000
5	Dec. 1977	Sewer Improvements (Falling Springs Ave.)	78,000
6	July 1979	Terminal Railroad Sewer Repairs (Phase II)	2,200,000
7	April 1980	Influent & Effluent Sewer Line @ WWTP (Phase I)	390,000
8	Sept. 1982	Manhole Repairs (Mississippi Ave. - Rt. 3 - Phase I & II)	1,650,000
9	March 1983	Misc. Sewer Repairs	115,000
10	April 1983	Misc. Sewer Repairs	458,000
11	May 1983	WWTP Effluent Box - Damage Evaluation	4,000
12	June 1983	Sewer Repairs (Monsanto Ave.)	<u>132,000</u>
		TOTAL	<u>\$6,170,000</u>

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TABLE 18

RECAPITULATION OF PRELIMINARY COST ESTIMATES

<u>PHASE</u>		<u>COST</u>
I	Repairs at the T.R.R.A.	\$ 2,275,000*
II	Repairs at the T.R.R.A.	\$ 1,382,000*
III	Repairs at the T.R.R.A.	\$ 1,008,000*
III-A	Repairs at the T.R.R.A.	\$ 974,000*
IV	Replace Abandoned Line to P-Chem	\$ 1,315,000
V	New 42" Sewer To and Along Monsanto Avenue	\$ 4,894,000
VI	Grout 30" & 24" Sewer - Monsanto Avenue & South Along Route 3	\$ 1,704,000
VII	Grout 24", 30" and 36" Sewer to Dead Creek	\$ 1,506,000
VIII	Storm Water Retaining Dead Creek	\$ 2,116,000
IX	Insituform Res. Sewers	\$ 708,000
X	Abandon Box E	\$ <u>99,000</u>
PROJECT COST SUMMARY:		\$16,973,000

*Line and Boxes at T.R.R.A. 4-7 M.

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